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ABSTRACT

This publication is the final report of an Environmental Inservice Experience for teachers. It is divided into four parts. Section I gives a general overview of the environmental education program. Section II includes research information about inservice training in environmental education. This is meant to provide background information and the rationale for the design of the inservice program. An explanation of the major inservice workshops and resulting class activities follows the research information. Section III contains descriptions of the projects and activities which took place in the senior and junior high schools. Materials used by teachers and narratives of their experiences have been provided where possible. In the appendix are some of the teachers' evaluation questionnaires, a copy of the student questionnaire, information on one elementary teacher's project, and a list of materials found to be useful. (Author/MA)

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MAPLE HEIGHTS CITY SCHOOL DISTRICT

ENVIRONMENTAL EDUCATION PROGRAM

5500 Clement Drive

Maple Heights, Ohio 44137

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FINAL REPORT

June 30, 1977

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The cooperation of these people helped to make this project possible.

FORWARD

The purpose of Environmental Education is to teach the public about the problems of environmental quality and ecological balance along with the related economic factors. This means that it must deal with people's association with their natural and manufactured surroundings. It must include many parts of the total environment - population, pollution, resource allocation and depletion, conservation, transportation, technology, economic impact, urban and rural planning - and how they affect each other.

The process of Environmental Education should be issue and problem oriented. It is a natural part of many disciplines, and can employ many learning techniques.

It cannot be confined to narrow subject areas and traditional teaching approaches.

- Environmental Education Act. -

"A good start isn't enough. Many people, both students and teachers, said it was easy to get started... but that it was tough to keep going.

"The real task was to get an idea and keep it moving. With most instructional units there is a beginning, a middle, and an end.

"It was an attitude that had to change. The attitude belonged to both the teacher and the students.

"The environment is not a lesson plan... people are not programmed pawns. Getting the two together means you can never be sure where they go.

"But going is the reward."

- Essence Materials

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Many persons were touched in some way by the Maple Heights Environmental Education Program and, in response, offered us their time and talents. We express our special thanks to each of them.

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STAFFORD ELEMENTARY SCHOOL

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Mrs. B. Justin, Maple Heights Bicentennial Committee

Finally, our secretaries who did our typing and production work, ordered our materials, answered our phone, researched local newspapers for articles related to our projects, and generally kept things running smoothly.

Rose Kovach

Betty Zienkowski

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INTRODUCTION

This report consists of four parts. Section I gives a general overview of the program.

Section II includes research information about inservice training in environmental education. This is meant to provide background information and the rationale for the design of the Maple Heights Environmental Inservice Experience. An explanation of the major inservice workshop and resulting class activities follows the research information.

Section III contains descriptions of the projects and activities which took place in the senior and junior high schools. Where possible, we have included materials used by the teachers and narratives of their experiences to provide some idea of the process they and their students went through

In the Appendix are some of the teachers' evaluation questionnaires, a copy of the student questionnaire, information on one elementary teacher's project, and a list of materials that we found useful.

SECTION I

GENERAL PROGRAM REPORT

PROCEDURES AND ACCOMPLISHMENTS

EVALUATION

DISSEMINATION

PROCEDURES AND ACCOMPLISHMENTS

The Maple Heights Environmental Education Program consisted of teachers and students in the three secondary schools working together on projects which used the community as a learning resource. In many cases, the work the students did concerned problems existing in the local community thus providing it with a service.

The program covered several disciplines. In the senior high school, social studies, English, science, and commercial art classes participated. In the two junior highs, science, English, math, foreign language, industrial arts, and vocational home economics were included. A detailed description of the work done in each school is in Section III of this report.

Involving teachers and students in learning experiences which take them out of the classroom requires preparation. For the teachers, this consisted of two inservice workshops as well as informal discussions with the coordinators. We had originally planned to have periodic meetings with the teachers participating in the program, but realized that, at this time in our school district, this method would be two structured to be successful.

Preparation for the students took the form of introductory individualized activities which gave them the opportunity to take more responsibility for their own learning. In some cases, they were expected to provide their own materials; in others, they were given a very general assignment and asked to interpret and implement it in their own way. All activities, however, required that the students interact with or use someone or something in their environment.

The two inservice workshops mentioned above were held during the school year. The Oral History Workshop was planned by the Project Director and Maple

Heights Library personnel. The purpose of this workshop was to introduce teachers and students to the methods used in contacting prospective interviewees, interviewing, taping, editing tapes, and the other procedures included in doing oral history. Nine senior high teachers, one administrator, and twenty senior high students attended the workshop.

The second workshop was given by two of the program consultants, John Thompson and Ed Maruna. A morning session was held for administrators; the afternoon session was attended by twenty-five teachers representing each of the schools in the system. Although the Maple Heights Environmental Education Program operated mainly in the secondary schools, we felt that it was a good idea to include elementary teachers and administrators in the workshop to give them the opportunity to learn some of the program's concepts and methods. A complete description of the workshop activities and follow-up work is in Section II of this report.

When the Environmental Education Program staff became aware of newspaper and magazine articles, instructional materials, and courses related to our projects, we informed the professional staff usually through bulletins.

Our research in current newspapers and magazines resulted in the production of our anthology of current articles concerning various aspects of the environment. A copy has been placed in each secondary school library with the hope that it can be used as a resource by both students and teachers.

We have also purchased environmental education materials related to our philosophy and methods for each school in the system.

An extensive publicity program using the local Maple Heights and Cleveland newspapers has informed the community of our efforts and services. Many of the

newspaper articles in the Maple Heights Press were written by the senior high school journalism students.

EVALUATION

The program was evaluated by means of a questionnaire given to teachers who participated in the workshop and then used workshop ideas with their classes. Several of these teachers were involved in the program from the beginning. An analysis of their responses is in Section II, and copies of five of the secondary questionnaires are included in the appendix of this report.

A student questionnaire was tested with three classes at the senior high school. It was not possible, this year, to revise and use it with other students, however. The students that were polled generally favored the teaching and learning methods used in the Environmental Education Program, because they were given the opportunity to plan their own projects and learn about current things and happenings in their immediate environment. They also indicated that the skills they had to develop to do their projects would be useful when they finish school.

The Program was not evaluated statistically. During the year an unsuccessful search was conducted to locate a suitable instrument. One possible test was designed by the coordinators, but there was no opportunity to validate it before the end of the school year.

DISSEMINATION

This report has been presented to the ERIC Clearing House for publication and made available to all interested parties through the ERIC program. Copies of the report have been distributed to all teachers in the Maple Heights City Schools, community leaders, program consultants, school systems in the Greater Cleveland area, and other recipients of Environmental Education awards.

Additional copies are available for school systems and organizations expressing an interest in our program.

SECTION II

INSERVICE

RESEARCH ON INSERVICE TRAINING IN ENVIRONMENTAL EDUCATION

MAPLE HEIGHTS ENVIRONMENTAL EDUCATION INSERVICE EXPERIENCES

RESEARCH ON INSERVICE TRAINING IN ENVIRONMENTAL EDUCATION

REVIEW OF LITERATURE

Inservice education for teachers and administrators is considered a necessary element of the profession. Spears (1957) feels that each school system should have an organized inservice program and considers this just as logical as the program of instruction for the students, because it is impossible to imagine pupil growth without teacher growth. His principles for inservice education include the fact that professional training and development of teachers does not stop when they leave college and cannot be served by continuous teaching alone. Teachers must guide their own development, but school systems have the obligation to help their staffs develop by providing opportunities for on the job growth. Since the test of inservice programs lies in the improvement of instruction and the consequent student development, they must be correlated with curriculum planning and supervision. The author indicates that the most valuable inservice activities are those through which teachers and administrators actively work together in such things as sharing practical teaching devices, methods, and materials, serving on and chairing committees, writing teaching guides, and solving problems. Working with parents, attending summer school and conferences, reading professional literature and visiting other schools and classrooms are also possibilities.

Jackson (1974) states that teachers who have managed to stay at their jobs year after year without becoming more that they were when they started teaching are really imposters. He defines the developing teacher as one who is fully absorbed in his/her teaching role and who spends a lot of time at it both in and out of the classroom. This person is open to suggestions for improvement and is willing to experiment with new ways. During the formative years, a teacher needs continual

support and tolerance from administrators and supervisors in order to become familiar with the school itself and to dispell doubts about competancy. To do this teachers must be able to have more contact with each other in an atmosphere of mutual help and understanding. Teachers should be able to observe other teachers and be observed. Schools should provide environments suitable to educational experimentation and self-exploration. The author cares less about what teachers are learning about themselves and teaching than whether they are sincerely trying to learn something. He feels that for all teachers, becoming is a life long process.

In their book on supervision, Mosher and Purpel (1972) indicate that it is important in any type of inservice education to work with teachers as persons, because what teachers are personally and how they feel about themselves affect what they do, how they teach, and what the students do and learn. A teacher's personality has a powerful contributing effect on his/her relationship with a child and on the child's informal learning.

Therefore, teachers must be given individualized opportunities to develop competency. Kimball (1955) feels that this is an excellent way to build staff morale. They should be able to participate in experimental programs. A study of staffs in schools that have done this has shown that stronger and more capable teachers were the result. People grow when they have the chance to try something new and when they can look at their jobs as a chance to explore better ways of teaching. Consequently schools should have strong programs of inservice training that prepare teachers for the new tasks emerging from program improvement.

In its 1960 Yearbook, the Association for Supervision and Curriculum Development came out strongly in favor of small group forms of inservice education. They feel that conferences and conventions using the lecture approach and

designed to help many people in a single meeting have very little effect on behavior. Work done in small problem solving groups focused on a common concern accomplishes much more. Coordinators, resource persons, and other administrative personnel, whose job is to improve the productivity of the organization should work face-to-face with other members of the staff. ASCD points out that many school systems are providing regular opportunities for teachers, supervisors and administrators to meet to identify concerns, clarify thinking, and work out action conclusions related to teaching-learning processes. They are also making resources available through which individuals, as the need arises, can develop professional understanding and skills. It is very important for broad staff representation to occur in the planning stages of inservice programs in order to meet the individual needs of the staff for professional growth.

A recent NEA publication (1975) reports research showing that school-based inservice programs are more effective than college-based programs. Teachers who participate as helpers to each other and planners of inservice activities tend to have greater success in accomplishing their objectives than do outside personnel who conduct programs without the assistance of teachers. The emphasis should be on self-instruction and individualized experiences which place teachers in an active rather than passive role. Programs should be geared to the general effort of the school rather than single unrelated topics. Teachers should be able to choose goals and activities for themselves and should be given opportunities to share and provide mutual assistance. This publication stresses that individual teachers must assess their needs and use this assessment in the design of inservice experiences. This type of thinking is behind the development of various vehicles for teacher development.

Glasser (1969) has suggested that every school district should conduct seminars in which first and second year teachers can discuss teaching and every aspect of how best to do it. This seminar group would be led by paid master teachers in the district. Its whole emphasis would be on the effectiveness of each member as a teacher rather than on performance evaluation.

In many school systems, the teachers' associations are including inservice education provisions in their negotiations package. This has occurred, because teachers believe that inservice education must be very individualized, and their ideas of what they need from it are usually quite different than those of administrators. (Luke, 1976)

Inservice education, it seems then, must be teacher-centered. O'Keefe (1974) states that the philosophy behind teacher-centered inservice education is to serve the needs of the teacher so that he/she can respond effectively to the educational demands of the students and society. In order for this to happen, teachers must have control over their own professional development and performance. Again this author indicates that opportunities to get together with ones colleagues to discuss common problems and share resources are essential. This can be done in a variety of ways. Some successful examples include experimentation with having students in school less days so teachers can use Fridays for professional development workshops and seminars; the establishment of Teacher Learning Centers and Institutes which offer a variety of learning experiences for teachers. The important point to consider here is that work time is provided for the teachers; very little of their own time is used.

In North Dakota (Perrone et al, 1976) teachers are examining their own practices and classrooms on the assumption that this is the best source for

teachers to learn more about teaching and learning, growth and development of children, and materials and methods. This is based on a claim by John Dewey that teachers need to maintain a reflective capacity in order to grow and become individuals who are clear about their intentions and capable of making independent judgments about the learning in their classrooms. The Center for Teaching and Learning at the University of North Dakota developed and used a teacher interview as a method for teacher reflection. It started out as an evaluation tool but now is the basic source for staff development in many North Dakota schools. In addition some teachers keep daily journals in which they note positive and negative responses of children, peer interaction, children's use of various materials, questions children ask, and so forth. Through this method, teachers become students of teaching and researchers, and have designed Staff Development Handbooks as a starting point for growth and an encouragement for teachers to rely more on their own personal resources and those of their colleagues.

Another form of inservice education for teachers is the workshop. During the 1930's the Progressive Education Association developed a plan whereby fifty to eighty teachers from schools participating in the Eight-Year Study would meet together for five to six weeks to exchange ideas, work on problems facing them in their schools, and confer with resource people to obtain new ideas. These workshops which proved to be a very useful way of developing the skills and point of view of experienced teachers, were usually held at a school or camp to enable the group to remain together day and night and to give them the opportunity to think together in informal as well as formal situations. The workshops were teacher-centered and planned as completely as possible by the group involved. (Wiles, 1955)

In the same vein as workshops are T- groups and groups involved in Gestalt awareness training and applied human relations training. There is a growing number of educators who believe it is important for prospective and experienced teachers to develop a greater awareness of themselves and others. They are turning to sensitivity training using the above methods. The T-group, probably the most common method, was developed and refined by the National Training Laboratory of Bethel, Maine. It consists of ten to sixteen people who meet in a residential setting for approximately two weeks. Its objectives are to help the individual participants become aware of why both they and others behave as they do in groups. These are realized with the help of a trainer who creates an atmosphere in which the motivations for typical human behavior of which persons are often unaware are brought to the surface in exaggerated form. (Silberman, 1970)

Carl Rogers (1969) has taken elements of the preceding two methods and has developed Intensive Group Experiences. He suggests that these could improve the leadership and interpersonal communication skills of educators, and bring about change in the organizational climates and structures in which the members work. These groups can be horizontal consisting of persons with similar job descriptions, or they can be vertical made up of a cross section of a particular school community. An intensive group usually consists of ten to fifteen persons and a facilitator or leader. It is relatively unstructured and provides a climate of maximum freedom for personal expression, exploration of feelings, and interpersonal communication. The emphasis is on the interactions among the group members and takes place in an atmosphere away from the school which encourages persons to drop their defenses and facades. Thus each member is able to relate directly and openly to the other members of the group and can come to know themselves and each other

more fully than is possible in their usual social or work environment. The climate of openness, risk-taking, and honesty promotes trust which enables persons to recognize and change self-defeating attitudes, test and adopt newer and more constructive behaviors, and, as a result, relate more adequately and effectively to others in everyday life situations. Educators have found that intensive group experiences have released the participants' capacity for better educational leadership by improving interpersonal relationships and by fostering learning by whole persons be they students, teachers, or administrators.

Inservice training in environmental education follows many of the trends already described. Goldstein (1973) stated that teachers in all disciplines need training and assistance to develop confidence to teach in unusual places, to locate and evaluate new materials, to design high impact programs, and to build student skills. If formal inservice teacher training cannot take place, environmental oriented sessions at teachers' conferences, faculty meetings or PTA meetings could be held. Other reasonable alternatives include integration of community resource personnel in the regular teaching schedule as guest lecturers, panel members, or group leaders, and the formation of school task groups to concentrate on specific areas of concern with subsequent pooling of information.

Although teachers of all academic disciplines should create environmental awareness in their classes, social studies teachers often bear a large share of this responsibility. Hardy (1973) feels that environmental themes should be developed in a teacher education sequence. Students in this sequence would learn lecture-discussion, role-playing and simulation methods using environmental themes. This author prepared several different environmental education units and used them in eight separate methods classes of students doing social studies

student teaching.

Another form of inservice training for teachers in environmental education is the summer institute. Since the summer of 1971, Ohio State University has offered such an institute with the support of the National Science Foundation. The program was designed according to three themes: the interdisciplinary nature of environmental problems, the development of attitudes favorable to environmental action, and the utilization of alternative forms of learning. Four phases make up the institute: environmental field research problems, an extended field trip, urban study and curriculum development, and in-service follow-up activities. All of these phases focus on the interrelationships between disciplines in the understanding and potential solution of environmental problems. Mayer and McKenzie (1974) feel that having the participants actively work through all of these phases prepares them to better implement forms of learning or instruction which differ from traditional methods of discussion, lecture and laboratory in their classes. The authors also stress that participants in the institute should realize and act on the fact that since the community is the student's environment, it should also be a central resource in the study of environmental problems.

DuShane (1974) reported that Bowling Green State University set up an Environmental Studies Center in 1970 to serve as a catalyst for consulting, research, conferences, seminars, and the establishment of interdisciplinary curricula within the university. It has held formal and informal seminars and workshops as an inservice aid to teachers. Outdoor education workshops for both elementary and secondary teachers were held. These required the participation of teacher-student teams which encourage a problem-solving cooperative program to be used back at school. These activities stimulated teachers to indicate further

need for training in environmental education and resulted in continuing seminars. A summer four-week interdisciplinary workshop for teachers which enlarged on the seminar concepts took place in 1973. Because teachers cannot always take advantage of graduate programs, Bowling Green has attempted to fulfill their needs in environmental education by providing opportunities for them to attend after-school lectures and informal meetings with experts in the field. The activities of Bowling Green's Environmental Studies Center demonstrate that teachers' needs for clarification of environmental education concepts, materials and resources, techniques and methods of implementation, and administration and community support can be met in many different ways. These methods can be used in any geographic location, but they must be adapted to local conditions and available expertise, and if teachers are to effectively implement what they learn, they must receive reinforcement.

Because environmental education tries to be interdisciplinary in a world of fragmented disciplines, it demands that the entire school faculty must develop sensitive environmental attitudes before the job of stimulating students to change theirs can begin. One method of doing this is to provide inservice workshops. In the field of environmental education, these are fairly common, although time-consuming, and in terms of reaching the total teaching community, ineffective. In Florida (Tillis and LaHan, 1974) an attempt has been made to remedy this situation. A series of workshops beginning with a state meeting and ending with local school sessions were held to create a multiplier effect of teachers teaching teachers. Regional coordinators and district contacts attended a statewide Action Conference on Environmental Education through which they were given guidelines concerning the content and structure of an environmental education workshop.

These coordinators and contacts then planned and held workshops to familiarize more teachers from all grades and disciplines with available written and audio-visual materials and services designed to assist in understanding the environment, presenting environmental information, and motivating learners towards social action. Teachers who attended these regional and district sessions then conducted workshops for all the teachers in their own schools. In this way all of the educators in Florida were given the opportunity to develop the sensitive environmental attitudes necessary to assist their students in doing the same.

Cleveland's Institute for Environmental Education also conducts inservice sessions for teachers. (Offutt, 1975) In 1974 a statewide water-testing project with national applications was begun in Ohio. Its purpose is to give high school teachers and their students the opportunity to investigate community concerns, to serve the community, and to develop environmental protection career skills. The methodology of the project has the students using the hard sciences as tools to understand the problem, and the social sciences to effect a reasonable change. The institute for Environmental Education has administered the Cuyahoga Heritage Project through which teachers and students are trained in water pollution investigations. The Maple Heights Environmental Education Program is an offshoot of this project.

Perhaps Goldstein (1973) best sums up environmental education, its scope and the demands placed on teachers. She states that there is an almost infinite variety of people, places and things available for environmental study. Environmental encounters offer tremendous opportunities for student involvement and personal discovery. The uniqueness of student perception and attitudes may become more apparent when observed outside the normal classroom routine.

Because of this, traditional approaches to discipline, presentation of information, communication and evaluation should be reassessed and modified when necessary to take advantage of new freedoms in perception, movement, exploration and manipulation found in non-classroom learning spaces. Some of this new found awareness may spur students to action in community and school projects. Environmental education must facilitate this involvement and support new concerns. This can lead to exploring new places, discovering new answers and new questions, experiencing joy, excitement and fascination, all of which should take place in teacher-student partnerships. Undoubtedly in order for teachers to be able to do this effectively, they need special training so they can develop greater sensitivity to students' needs, feelings and behavior, and also so that they can become more comfortable with themselves and be active participants in class activities.

The Earth Science Teacher Preparation Project has designed materials to do this. Throughout its existence ESTPP successfully demonstrated that by immersing educators in humanistic alternative learning situations, open education works. It also successfully conducted retreats, workshops, and conferences that gave educators the incentive to innovate on their own. Because they received many requests to publish their ideas and techniques, ESTPP developed an action oriented kit called A Gift Garden of FantaSeeds. This is a series of packets each containing a specific seed or technique to plant in any type of educational situation with the hope that an implemented idea, solution to a problem, way to deal with subject matter content, or educationally useful insight into the human personality will result. Some of the "seed packets" in the kit are: Goals Determination, Conflict Matrix, Communications with others, Agenda Building, Individualizing Instruction, Rich Learning Environment, Grading and Evaluation, Valuing, Humanizing

Education, Spontaneity-Creativity-Cultural Conserves, and Action Learning. (ESTPP, 1974) Because our consultants were on the ESTPP staff, these materials will be part of the basis of the Maple Heights Environmental Education Inservice Workshop.

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The entire issue is devoted to various articles about teacher centers as a form of inservice education.

MAPLE HEIGHTS ENVIRONMENTAL EDUCATION INSERVICE EXPERIENCES

Administrators' Workshop

The Activities:

1. The consultants told the participants to go outside and pick up something that they felt represented them. After five minutes they were to come in, join with three other persons and make a picture showing the environment using the things they had collected. They were supposed to paste/tape the items to the drawing. Each group then explained its creation to the rest of us, and each drawing was evaluated with such grades as $E=MC^2$, A+, SUPER, etc. to stress the non-evaluative nature of the process. During the discussion after the activity, the administrators agreed that in order to do it, they had to:

- relate themselves to the environment
- ask, "Who am I?"
- become aware of their environment
- think about "Where I fit in."
- relate to one another
- do some problem solving
- use creativity
- look where they hadn't looked before

They decided that these goals were valuable for education. The consultants brought out that the science processes of Classification, Observation, Inference, Hypothesizing, Replicating, Measuring, Variables, Data gathering, and Organization were a real part of this activity and can be applied to all disciplines.

2. Use of the Essence I cards. These are activity cards that teachers can use with their students to build creativity, trust, and use of the environment. The

administrators had to choose a card and do the activity described on it. We then shared the results. One card in particular was discussed in terms of how it could be used with teachers in a school. The activity directs the user to "go outside (or inside) and find things and places that you hate and love and make a list of these". This would be a good way for administrators and teachers to clarify their feelings about the school environment.

Evaluation:

The administrators evaluated the workshop using a semantic differential scale. Figure 1 shows how they rated the workshop. The feeling seemed to be very positive.

In a discussion after the workshop, the consultants and I agreed that the administrators probably recognized the purpose of the activities, because they developed educational goals as a result of what they did. We were not sure, however, how much they internalized the experience.

Teachers' Workshop

The Activities:

1. Mantra. After general introductions, one of the consultants gave the participants a mantra, "No matter what you say or do to me, I'm still a worthwhile person." This was to be used during threatening experiences.

2. Waterwitching. The purpose of this activity was to experience a phenomenon that is not scientifically supposed to work and for which there is no logical explanation. The procedure is to straighten out two coat hangers and make right angle bends in one end of each one to serve as handles. A person engaging in this activity holds the apparatus so that the two hangers are extending straight out in front of him/her with the long ends parallel. See the drawing in Figure 2. The

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
INSERVICE WORKSHOP

I FOUND TODAY'S WORKSHOP -

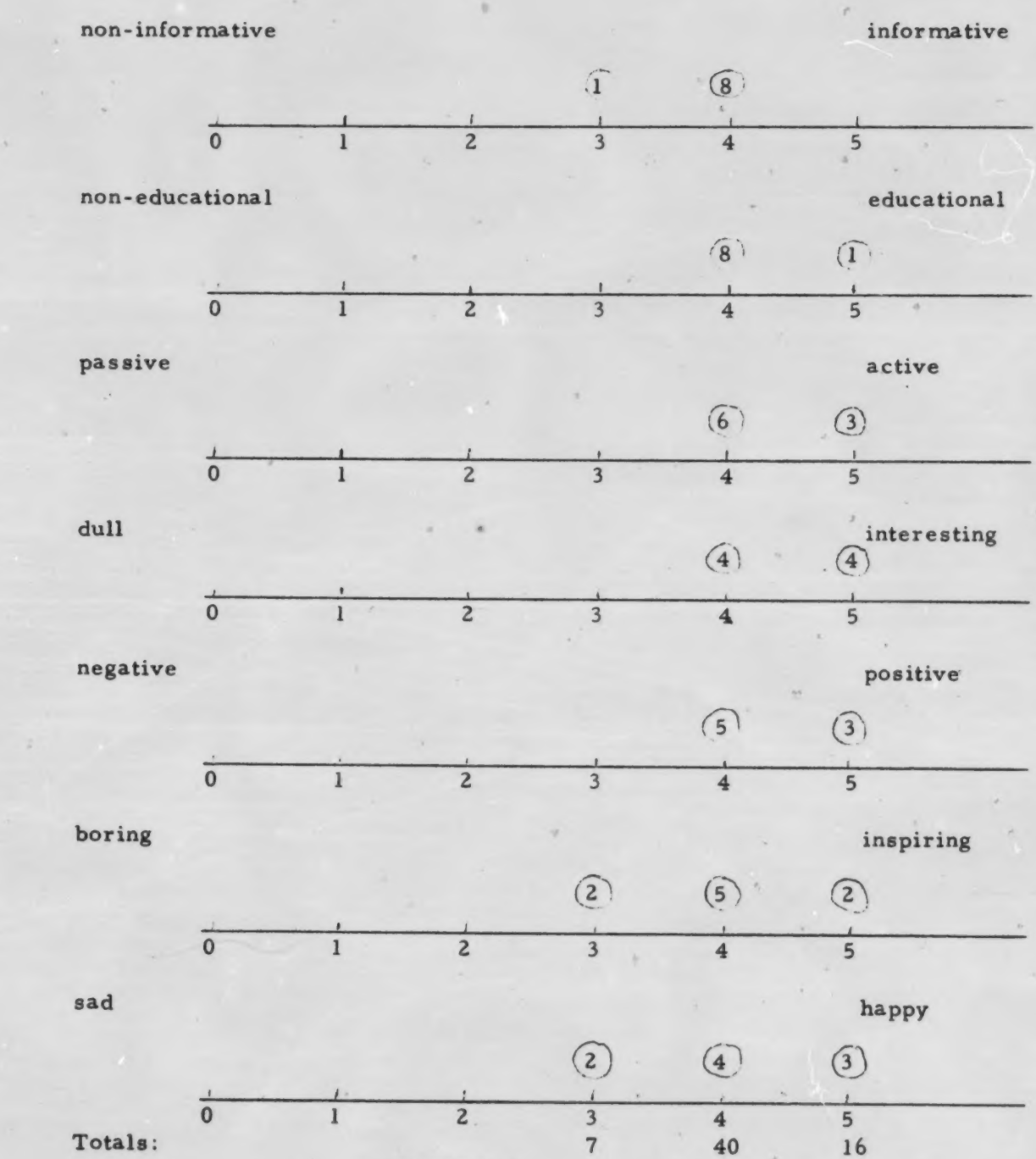

FIGURE 1
Administrators' Workshop

person then walks, and when he/she reaches a place where there is a pipe or some other source of water, the long ends separate from each other and point outwards.

FIGURE 2

3. Profile Drawing. Each person chose a partner whom he/she didn't know very well. Each then drew the other's profile and signed the person's name as he/she thought it should be signed.

4. Essence I cards. The participants chose activity cards and incorporated their tasks into their profiles. We then shared the results and discussed how all of this could be used in the classroom. Ideas and the educational goals drafted by the administrators during the morning workshop were mentioned and discussed.

Evaluation:

The teachers evaluated their workshop using the same semantic differential scale as the administrators. Figure 3 shows how they rated it. Again most had a very positive attitude about the experience.

On the whole the experiences the consultants guided us through during the workshop were not the sort of things that those of us who have been raised in the

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
INSERVICE WORKSHOP

I FOUND TODAY'S WORKSHOP -

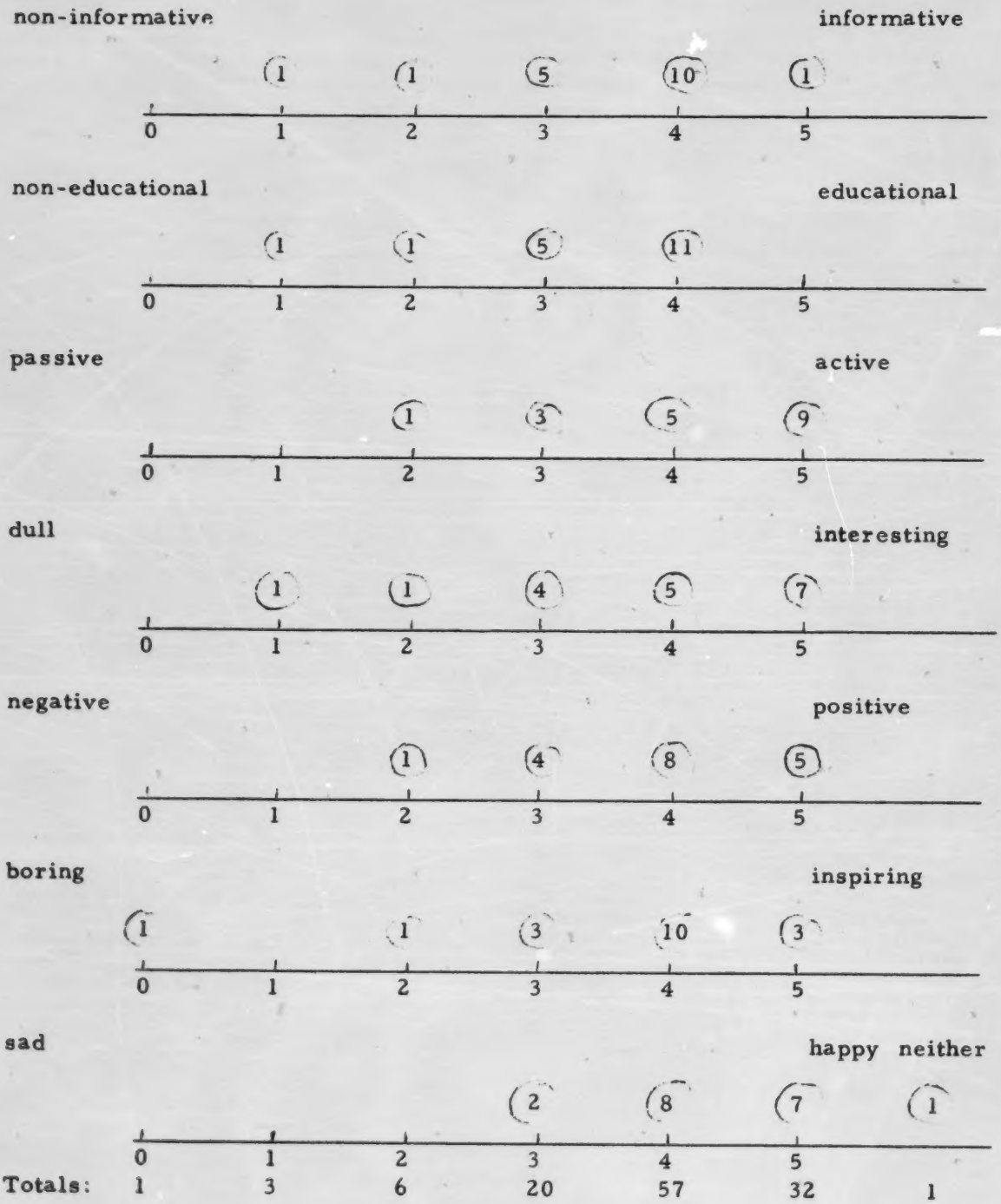

FIGURE 3
Teachers' Workshop

"system" are used to. Some of the participants' comments, such as, "This is what I put; I hope it's what they wanted." or "How can I apply all of these Essence cards to my social studies class." illustrate this fact.

These experiences imply openness, creativity, trust, initiative, self-direction, and a non-evaluative atmosphere. All of this makes up the essence of true environmental education which focuses on real problems and has teachers and students investigating together. If teachers want to successfully guide their students' cognitive and affective learning within the context of environmental studies, they must establish these characteristics within themselves and their classes first. The best way to do this is to get involved in environmental learning activities, first with other teachers in an inservice setting and then with ones students in a learning situation. One afternoon of training is usually insufficient.

POST-WORKSHOP ACTIVITIES

To determine when the teachers attending the workshop would be available to meet with me during April and May, they were asked to fill out the form (Figure 4) attached to the semantic differential scale. Thirteen teachers out of the twenty-two attending the workshop expressed an interest in continuing with the inservice experience.

The next step I took was to set up appointments to visit the teachers in their schools. This was done by letter. All of the visits occurred during the second half of April. Each visit consisted of discussing possible community oriented environmental activities that the teachers could use with their students, giving them materials they could use, and asking them to fill out an evaluation questionnaire.

The workshop (check the appropriate line)

_____1. gave me ideas to improve community oriented activities/ projects I am already doing with my students.

_____2. gave me ideas to initiate community oriented activities/ projects with my students.

_____3. gave me no new ideas.

_____ I plan to continue participating in the Inservice Experience during April and May by designing a project/activity using the community as a resource.

The best time in the afternoon for consultation with the Environmental Education Coordinator is

_____ _____
time day

Name_____

School_____ Grade/Subject_____

FIGURE 4

About half of the teachers returned the questionnaire by the May 20th date I suggested. I spent the following week contacting the others. What follows is information extracted from the questionnaire and from personal conversations.

Five elementary teachers (one from each building) planned activities and projects with their students. I received feedback information from four of these teachers. Of these four, three had been able to complete what they decided to do.

A fifth grade teacher who already works in partnership with her students had them involved in a recycling and energy conservation project as a part of their science class. I was very much impressed with her teaching style. When I received her feedback information, however, I discovered that the whole project had been a disaster, because they couldn't find scrap dealers who would cooperate with them. Most told the students not to bother, because they weren't interested in collecting their trash. The teacher indicated that this and a few of the other bad experiences they had in dealing with people left them with very negative feelings. She is not sure that she wants to try anything like this again. This was the only real unfortunate experience that occurred. Since I was not aware of what was happening, there was little I could do to help the teacher work through her problems while they were going on. It is difficult to know how much contact to maintain with a particular teacher. This one left me with the impression that she was quite experienced in this type of teaching and wanted little if any guidance.

A fourth grade teacher chose to use the Essence I cards in a science activity, the goal of which was to give students a change and another learning experience. She modified her teaching method by having the students work outside, giving them more freedon, and participating with some of the groups. Her students' progress and learning was based on their participation, actions during study, emotional

reaction, feedback from drawings, private conversations, and class discussions. This teacher, however, felt that the project was not a success, because it was begun too late in the year and she could not plan effectively enough in that short a time to make it the success she wanted it to be. If she were going to do another similar project or activity with her students, she would start at the beginning of the year using the activity cards and other resource material to plan effectively to use this kind of approach. She would also attempt to make projects more inter-disciplinary to add interest.

A third grade teacher came up with her own idea for a science/English/art activity. She wanted her students to see the obvious and then the not-so-obvious in the world around us. She did this by having her students look around for things that resembled the letters of the alphabet. Each student had a letter that they were supposed to find, draw a picture of, and then write a sentence about where they found it. This was done with each child making a little booklet of his/her letter. The teacher indicated that this was different from her usual teaching style, because it was not textbook dominated. She based her students' progress and learning on their completed booklets and their relationships to each other as they worked, and felt that for a first try, it was a success. If she were to do this type of activity again, she would make it less teacher/more child structured which, she feels, would probably take more time. In addition, she indicated that she wants to work harder on a year-long program to develop more mutual respect within her classroom, and to give more activities in which an answer is not necessarily right or wrong. An outline of what she actually did with her class is included in the appendix of this paper.

Another third grade teacher planned some science/social studies activities with her students to introduce environmental problems related to land, air, and water. She wanted them to become aware of how the problems do and will affect them personally, and to help them realize that they are part of the solution. Her plan was excellent, but due to extenuating circumstances, she was not able to fully implement it. She indicated that if she were to do something like this again, she would devote more time to pre-planning and follow through with implementation.

Five junior high teachers (three from one building and two from the other) planned projects and activities with their students. Two of these teachers (one from each building) had been working closely with the Maple Heights Environmental Education Program since September and were already well-versed in its philosophy and methods by the time of the workshop. One of these teachers teaches consumer education in her home ec classes, but this was the first time she had done a community service project in connection with it. She felt the project was a success, because she and the students gained new knowledge and insights, and the public seemed to appreciate the class's efforts.

The other teacher had his earth science students studying various types of actual community problems related to the course content. This was different from what he usually does in his classes, because most of the planning was drawn from the students and there was more activity. If he continues with this method of teaching, he would construct one very simple example of a problem to use as a basis for developing methods to work on projects.

Two of the junior high teachers had very definite plans to try activities with their students, but were not able to complete them. One of these teachers got caught up in the end-of-the-year hecticness. However, she is going to try to do at

least one activity with her eighth and ninth graders before school closes.

The other teacher found herself in a rather unique situation. She is a science teacher who was given a six week leave to do student teaching in learning disabilities in her own building. She carefully planned some environmental activities using the Essence I materials for her substitute to do with her science students, and also thought that she would be able to try some with her LD students. Then she ran into problems. Her original substitute got sick, and the replacement who was not certified in science was barely able to make it through the school day. Her LD students were tied into required projects, so she had no time to use the environmental activities she had selected. Next year, she plans to definitely do some environmental work with her students.

The remaining junior high teacher very successfully used the Essence I materials as a basis for writing assignments with his ninth grade English students. The activity he concentrated on was one focusing on a predator-prey relationship. This method of teaching was not very different from what he usually uses, but he did state that he had to emphasize a trusting relationship a little more than usual. This was necessary, because he wanted the students to use specific examples which, in some cases, meant naming persons. By developing a stronger trusting relationship, he believed that they would be more honest in their compositions. He felt the project was a success, because the students got much needed practice in abstract thinking, and also because the students felt that it was a positive experience. He, himself, learned that students are sometimes capable of very deep thought when pushed; something he doesn't always do to his own satisfaction. It was also gratifying to his ego that the students trusted him enough to be open and honest in their compositions.

In the senior high school, three of the six teachers who attended the workshop continued with the inservice experience. Two of these teachers had been planning and doing community oriented projects with their students before the workshop. The other teacher began using Essence cards with his advanced biology classes right after the workshop and used the predator-prey activity as the basis for a field trip to Holden Arboretum. My only feedback from this teacher was during occasional informal conversations, as he did not return his questionnaire by the deadline.

The economics teacher had planned from the beginning of the year to have her students use the case study method to examine local businesses. This was different from what she usually does with her students, because it involved field work, interviewing, and keeping a journal as a reporting method. The project was a success, she felt, because most of the thirty-one students in her class were interested and enthusiastic, and because she got to know more of them than she would have ordinarily. She decided that this type of teaching is harder work but more fun, and, more importantly, she discovered that her students behaved more maturely and responsibly during the project. If she were to do this again, she would encourage the students to begin interviewing and visiting earlier, because once they begin doing this, they become more enthusiastic and hopefully the project will be more thorough.

The senior commercial art teacher had his students painting murals in the school and in the community. This project was different than what he usually does with his class, because the students had a much greater opportunity to work alone and to take full responsibility for the planning, selling, and execution of their work. He felt the project was a success, because they received some favorable publicity,

beautified the school and community, and gave the students pride in their work. He found that for himself, the most difficult task for an artist is to oversee someone else's work, because it is most difficult to handle such a project with patience and tactful criticism. If he were to do a similar activity with his students in the future, he would publicize it more, plan and coordinate it better, and impose tighter deadlines.

In analyzing the experiences that the teachers who participated in the entire inservice project had, I conclude that it was successful in several regards. The teachers who actually planned and carried out a project had a learning experience with a teaching method that differed in varying degrees from what they are used to. Those who planned activities but were unable to carry them through to completion, had their interest aroused and are more likely to try this teaching method in the future. The teacher whose project ended on a negative note may decide to evaluate what happened and try again perhaps by first doing some community reconnaissance work to see if anything is available that will give some reasonably positive results. When I write my appreciation notes to the teachers who participated, I will certainly make this suggestion to her.

Copies of the teachers' questionnaires and some examples of the students' work are included in the appendix. These will provide more detailed information about the various projects and activities which occurred during the course of the inservice experience.

PROBLEMS AND RECOMMENDATIONS

The main problem that was experienced in implementing the workshop by both the teachers and myself as their supervisor was time. The workshop was

held during the last week in March just before Spring vacation. By the time I could schedule visits with each teacher, April was half over. Because of my own personal constraints, mostly revolving around completing this paper, I needed to have the results of their activities and projects back by May 27th. This did not give many of them sufficient time to work out the details of what they wanted to do and to actually do it. Some said that they were going to continue the activities to the end of the school year, and others said that since they now had some new ideas and some knowledge about how to proceed, they would start the school year off doing some environmental/community oriented activities with their students.

All of this leads me to believe that the early part of the school year would be the best time to run this type of an inservice experience. The workshop could be held in October on NEOTA Day. During the time before Thanksgiving, the teachers could be working with the supervisors in planning and doing environmental/ community oriented activities with their students. Evaluation of the process could occur sometime after Thanksgiving with further opportunities for teachers to continue planning and modifying activities with their students after Christmas and during the second semester.

In addition, since a one day experience with consultants is not sufficient to allow educators to internalize new ideas and processes, I further suggest that a weekend workshop similar in scope to those described by Carl Rogers and the Progressive Education Association be held in the Fall, perhaps on NEOTA week-end. The site could either be away from school or at school. A possible non-school site in the Cleveland area could be Punderson State Park using the Manor House facilities for lodging and workshop sessions. At Maple, an interesting arrangement could be made by using the Media Center, the Athletic Complex, and

the school campus with teachers "camping" in the school over the weekend. Something similar to this was recently done when the Ohio Conservation and Outdoor Education Association had its annual meeting at the Ohio State Historical Society in Columbus. Plans for this type of inservice experience would have to begin before the end of the previous school year and continue during the summer. Committees for various aspects of the weekend, for example, meals, lodging, entertainment, reserving of the building, contacting consultants, program, etc. would have to be set up.

SECTION III

ACTIVITIES AND PROJECTS IN EACH SECONDARY SCHOOL

EAST JUNIOR HIGH

WEST JUNIOR HIGH

SENIOR HIGH

EAST JUNIOR HIGH SCHOOL

Project I - Composting Project

Participants: One Earth Science Seminar Class
One Math Class

Purpose:

It is felt that a leaf compost would benefit the city of Maple Heights and its citizens by providing an economical and ecological way of disposing of leaves and by supplying the citizens with a free and natural fertilizer.

Procedure:

1. Students did research on leaf composting and the need for it in Maple Hts. From their findings they wrote a proposal to be submitted to the Mayor and City Council.
2. If the Mayor and City Council agreed and provided a leaf composting area in Maple Heights, the students could then provide information about organic gardening to interested citizens.

Results:

The city has agreed to supply citizens with leaves for composting for this year. Follow up for next year would be to find a location for a permanent composting site.

Project II - Light Pollution Project

Participants: One Earth Science Seminar Class

Purpose:

Astronomers and other people who enjoy looking at the stars have problems seeing them because of the light in cities at night. The purpose of this project was to determine whether light pollution is a problem in Maple Heights.

Procedure:

1. Students conducted a preliminary survey among residents of Maple Heights to find out how they view the problem of light pollution.
2. Students found out about zoning and lighting regulations along major highways in Maple Heights.
3. Proposal about light pollution was written and submitted to City Hall to inform them of the fact that light pollution is a problem for some of its citizens.

Results:

Proposal was given to the city for their references.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION

IS A LEAF COMPOST AN ECONOMICAL WAY OF PROVIDING THE CITIZENS OF MAPLE HEIGHTS CITY A NATURAL FERTILIZER?

East Junior High School
9th Grade - Earth Science Class

INTRODUCTION

Mr. Cikach's 9th grade seminar science class is interested in constructing a leaf compost for the citizens of Maple Heights. We found that it is an ecological way of using the leaves which would otherwise be disposed of. It has been proved to be effective in other communities. The Maple Heights citizens would be pleased to have a free organic fertilizer as many citizens do have gardens.

To make sure the people would make use of a leaf compost, we took a survey in a few areas of Maple Heights.

We gathered much information and researched it thoroughly. We made sample leaf compost in our classroom to give us an idea of how leaves decompose.

Through our research we found a leaf compost would be an inportant asset to our community.

GOALS

1. Have an economical leaf compost.
2. To provide the city with a way of disposing of the leaves.
3. Provide the citizens with a free and safe natural fertilizer.
4. Save the city the cost of shipping the leaves.
5. To provide the citizens with an ecological way of growing a garden.

OBJECTIVES

1. Decided to make a leaf compost.
2. Class split up into groups and worked on different aspects in leaf compost.
3. Went to City Hall and interviewed the Service Director of Maple Heights about leaf disposal in our area.
4. We researched on making a leaf compost.
5. Prepared a survey on gardeners' opinions of organic fertilizers.
6. We went out and surveyed the people.
7. We called Richmond Heights and asked questions pertaining to their leaf compost.
8. Calculated the results of our survey.
9. We brainstormed probable locations for storing leaf compost.
10. Experimented with our own leaf compost.
11. Bring up results of researching and brainstorming in a proposal.
12. Take up proposal at City Council Meeting.

PROCEDURE

Our class decided to make a leaf compost. In our class we split up into groups and worked on different aspects. Members of a group interviewed the Service Director of Maple Heights at City Hall about leaf disposal in our area. Another group researched on making the leaf compost.

We then prepared a survey on gardeners' opinions of organic fertilizer. The class went out and surveyed the people. We found from our survey that 60% of all the people surveyed had gardens. Of that 60%, 46% had organic gardens. Thirty-four percent of the organic gardeners used a leaf compost fertilizer, whereas 37% used garbage compost, and the remainder used a different mixture or organic materials. Of the people who didn't use organic fertilizer, 29% used lime as their fertilizer and 71% used a store bought brand. Of the gardeners surveyed, 28% had excellent results, 59% reported good results, and the remaining 13% had a bad season. Of all the gardeners surveyed, 71% would pick up and use the organic fertilizer.

The following are probable locations for storing a leaf compost:

1. Behind the ice rink at Stafford Park.
2. At the dump at Schreiber Road.
3. In front of woods at Raymond School.
4. Behind Glenburn Avenue off of Lee Road.
5. Behind Fire Station off of Warrensville Road.
6. Dead End on Kenton Avenue.

We then decided to call Richmond Heights for further information about a leaf compost. Their Environmental Planning Board has been operating a leaf compost for two years. We found they have three locations, all on city-owned land. During spring the city makes the leaf compost available through advertisements in the local newspapers.

We have been working with an experimental leaf compost in the back of our classroom. We found the leaf and grass mixture reaches a high enough temperature for leaf decomposition. The final step taken in our project was to write a proposal to be presented to Mayor Lisy and City Council. Through our extensive research and work we hope to provide Maple Heights with a useful project from which all citizens could benefit.

JUSTIFICATION

We are a class of Earth Science Seminar students at East Junior High school working on environmental problems in the Maple Heights area. We are proposing a leaf compost for the City of Maple Heights. We feel that a leaf compost would benefit the City of Maple Heights and its citizens with an economical and ecological way of disposing of leaves while supplying the citizens with a free and natural fertilizer.

RESOURCES

The Best Gardening Ideas I Know, by Robert Rodale, Organic Gardening and Farming Magazine.

Mrs. Crozier - City of Richmond Heights.

Let It Rot!, by Steward Cambel, Pg. 152, 1975.

Mr. Robert Lough, Service Director, City of Maple Heights.

Make Compost in 14 Days, from article "Helpful Hints on Compost Making".

Organic Gardening, from article "Making Compost is Like Making Soup", by Jeane Robinson, Pg. 180.

Organic Gardening, by J. I. Rodale, Pg. 224.

Shaker Heights Quadrangle Publication: U. S. Geological Survey, Washington, D.C. - SO_2N_2, 1972.

SURVEY

1. Do you have a garden?
   YES_____ NO_____

2. Do you use organic fertilizers?
   YES_____ NO_____

3. If yes, what type of organic fertilizer and why do you use it?
   LEAF COMPOST_____ GARBAGE COMPOST_____
   OTHER_____ REASONS_____

4. If no, what kind of fertilizer do you use?
   LIME_____ OTHER_____

5. What have your results been using your fertilizer?
   EXCELLENT_____ GOOD_____ POOR_____

6. Would you use and pick up organic fertilizer if the city provided it free of charge?
   YES_____ NO_____

Project III - Energy Saving Trees

Participants: One Earth Science Seminar Class
One Math Class

Purpose:

This project is designed to determine how landscaping around a house can save energy inside the house. If useful information is collected, this will be publicized and made available to the citizens of Maple Hts.

Procedure:

1. Students studied information about energy and its conservation.
2. Students took part in a "tree exercise". Through this they developed a plan showing where trees should be planted to promote the cooling of the house. They also determined what types of trees and what kind of spacing among them would produce the best energy saving results in summer and winter.

Results:

Students developed the background needed for effectively landscaping a yard to conserve energy.

Project IV - Energy Conservation in a School Building

Participants: Earth Science Students
Math Students

Purpose:

1. To show students how energy can be saved through proper planning.
2. To teach students how to calculate heat loss through a house.
3. To show students how alternative energy sources can be used.
4. To inform the school administration about the tremendous heat loss through windows.
5. To be a resource to school board for future planning.

Procedure:

1. Students researched literature about different type of energy.
2. Students gathered data on heat loss through windows in school and at home by measuring windows, finding temperature difference between inside and outside, and doing calculations to determine how much energy would be conserved by using storm windows.
3. Students wrote proposal containing research results for presentation to board of Education.

Results:

A proposal was written and submitted to the school board for use in future building.

Project V - Salinity in a Local Stream

Participants: Earth Science Students

Purpose:

1. To study effects of salinity in fresh water streams on plant and animal life.
2. To learn how salinity affects the life cycles of streams.
3. To present information about stream salinity to the city in the form of a proposal, to help them evaluate their use of road salt.

Procedure:

Students did the following activities:

1. Literature research on salinity.
2. Water sample collecting and testing.
3. Graphing of water test results.
4. Report and proposal writing.

Project VI - Geology Camp

Participants: Earth Science Students

Purpose:

1. To learn the geology and ecology of a national forest including wildlife, vegatation, mountain building, and stream formation.
2. To learn how a national forest is governed and used.
3. To develop skills in using topographic maps.
4. To develop camping skills.

Procedure:

Students did the following activities:

1. Literature research on geology and ecology of the National Forest Area.
2. Study topographic maps of the area.
3. Study the area through slide presentations.
4. Write to agencies for information about the area.
5. Participate in a geology lab covering rocks and minerals found in the area.
6. Learn how to use dichotomous keys.
7. Participate in a weekend field trip to the area.

Results:

Students developed an understanding of the ecology of a true wilderness area.

Project VII - Sea World Field Trip

Participants: Earth Science Students

Purpose:

1. To study marine organisms in a natural environment.
2. To study adaptations of marine organisms.
3. To learn how marine animals are trained.
4. To become better acquainted with marine life.

Procedure:

Students did the following activities:

1. Research oceanography history.
2. Study marine habitats.
3. Research on adaptations of marine organisms.
4. Go on field trip to Sea World.
5. Review training methods, marine habitats and adaptations seen on the trip.

Results:

Students were able to see and study marine organisms in their natural environment.

Project VIII - Bedford Reservation Field Trip

Participants: Earth Science Students

Purpose:

1. To study the geology of the area.
2. To study stream development.
3. Fossil identification.
4. To construct a geologic column of the area.
5. To acquaint the students with the geologic history of the area they live in.

Procedure:

Students did the following activities:

1. Study sections on rock identification.
2. Research stream development.
3. Construct practice geologic columns.
4. Take field trip to Bedford Reservation.
5. Study geology, fossils, stream cycle, and history of area.
6. Construct geologic column of area.

Results:

Students had a first hand experience studying the geologic history of their area.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION

Dear Parents:

Your son or daughter is participating in an Earth Science Seminar Course which is part of an environmental program funded by the federal government and the Maple Heights Board of Education. The program is geared toward project oriented work with environmental problems in our community. We will be taking field trips and doing field study projects in various parts of Maple Heights. To do this, we need parental permission to take the students out of class and into the community. If this meets with your approval, would you please sign the attached statement and have your son or daughter return it to me.

Certainly we will take every precaution while in the field. However, you may wish to check your insurance to see if it would cover any accident that could occur while your son or daughter is participating in such a project. If you have any questions please feel free to contact me at 587-3200.

Sincerely,

Frank Cikach
Don Mathews

****

_____has my permission to participate in field trips and study projects in the Maple Heights area. By signing this I agree to take responsibility for my son or daughter's actions while participating in such a project.

_____
Parent Signature

_____
Student Signature

Could you be a chaperone on a field trip? YES_____ NO_____

It is possible that some field trips will be scheduled outside of school time, perhaps on weekends. Would you be able to drive a few students on such an outing?

YES_____ NO_____

Do you have any special skill or occupation which you think may be of help to us?

CONSENT SLIP FOR EARTH SCIENCE FIELD TRIP

PLEASE READ CAREFULLY

Because of the potential hazard involved in the type of field trip that we will be taking, the earth science teachers (Mr. Cikach and Mr. Mathews) wish to make it very clear that every precaution must be taken to insure the safety of all students attending. You may be assured that the teachers in charge of this field trip are familiar with the area that will be visited and have carefully checked the area for possible dangers. However, the ultimate safety of all involved depends greatly on each individual student. Each and every student that attends a trip of this nature must be able to accept a heavy responsibility, both for her/his own safety as well as the safety of the entire group. Signing this slip is an indication that the individual has read and agrees to accept, without equivocation, all statements contained therein.

Unfortunately, there are always a certain number of students who are not mature enough to behave in a responsible manner in a situation of this type. Therefore, the final decision on the attendance of any student will rest with the teachers involved.

Equipment each student will need:

Bag lunch (canned pop ok, no glass permitted)
2 pencils
notepad
proper dress - jeans or other durable pants, no shorts, no exposed midriffs, tough shoes (hiking boots, work shoes, etc.)-if none available tennis shoes are allright except they do not offer much protection from sharp objects.

Any student not having any of the above equipment runs the risk of being left at school.

It is important that the teachers be informed of any physical impairment that may affect a student while on the trip. Parents should use the space provided below to indicate this.

If there are any questions please call 587-3200, ext. 325.

I have read the above and agree with the statements given.

_____	_____	_____
(principal)	(earth science teacher)	(parent/guardian)
_____	_____	_____
(assistant prin.)	(earth science teacher)	(student)

Remarks on physical problems: _____

WEST JUNIOR HIGH

Nicholas D. Frankovits

Project I - Lead Testing of Pottery and Earthenware

Participants: Earth Science Students, Maple Hts., Ohio
Home Economics Students, Maple Hts., Ohio
Journalism Students, Maple Hts., Ohio

Purpose:

1. To gather data concerning relationship of lead intake to physical health.
2. To learn scientific methods to measure lead content and how to draw conclusions from this.
3. To provide a lead testing service for the community.

Procedures:

1. Literature research on lead and its effects on health.
2. Laboratory tests of articles to determine lead content. (See figures 1 & 2)
3. Articles explaining this community service appeared in the Cleveland Plain Dealer and the Maple Heights Press. Response from the school and Cleveland area was excellent.

Results:

1. The students found this project intriguing and were very willing to participate.
2. Students came into the lab to do the testing and record the results during their study halls or other free time.
3. Response from the school and the community was excellent with people bringing in everything from their favorite coffee mugs to their crock-pot to be tested.
4. Approximately 100 items were tested and 50% showed traces of lead. Of the 50% that leached lead, the greatest majority were hand made or class room art projects. Their contamination was possibly due to improper glazing and firing.

Project II - Wise Buying Service

Participants: All science classes, Maple Hts., Ohio
Vocational Home Economics Classes, Maple Hts., Ohio

Purpose:

1. To provide a consumer research service for the citizens of Maple Hts.
2. To give students the opportunity to learn how to find consumer information.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION

GET THE LEAD OUT! / MINIEXPERIMENT

Put your sample in a test tube with a few cubic centimeters of 0.1M acetic acid. Slowly heat the mixture to boiling over your Bunsen burner. (If you are testing a piece of pottery, heat the acetic acid to boiling first. Then carefully rinse the acetic acid around the inside of the pottery and pour it back into your test tube.) Cool the test tube and its contents in running water from the tap. Add 1 cm^3 dithizone solution. Stopper the test tube with a cork and shake it vigorously for 10 seconds. Run a known positive by placing 1 cm^3 lead nitrate solution, $Pb(NO_3)_2$, and 1 cm^3 dithizone in a second tube. Shake this tube. Run a control, using distilled water and dithizone. Record your results. Compare your results with those of other members of the class. Was there lead in your sample? Did you get it out?

FIGURE 1

LEAD TESTS (RESULTS)

Description of Test Object	Acetic Acid Time	Positive Results (Lead)	Negative Results (No Lead)

FIGURE 2

Procedures:

1. Students secured information from the following sources on many aspects of consumerism:
   a. Local businesses concerning various products they carry.
   b. Parents, who were also a source of information due to their business endeavors or first hand experience with particular products.
   c. Consumer Hotline in Columbus, Ohio
   d. Better Business Bureau
   e. Food and Drug Administration
   f. Dept. of Health, Education, and Welfare
   g. U.S. Dept. of Transportation
   h. The Illuminating Company
2. Both Science and Home Economics students were equally divided into groups.
3. Students discussed and summarized what they felt were the most important points of the information they had collected.
4. Various local newspapers ran articles explaining the project. Fliers were sent home with the students listing the topics of information available.
5. Consumers were asked to check their interests and send a self-addressed stamped envelope to the school. Some called in their requests.
6. The material was compiled and sent out by the students. (See figures 3, 4, 5, 6)

Results:

1. Approximately 125 requests were answered.
2. The interaction of the Science and Home Economics students during this project caused them to make an important discovery - the two fields are actually very closely related. Scientific concepts and discoveries directly affect our lives as consumers in all areas from food prices and shortages to the cost of electricity.
3. While summarizing the articles the students sometimes found themselves taking words or sentences out of context, thus implying meanings that were not intended. So the students learned a lesson in writing skills and also one that every consumer should know - "Make sure you read an article, advertisement, warranty, or guarantee in its entirity or you may misinterpret its true meaning.
4. The interaction between the school and the community was invaluable. The students were made aware of many of the everyday problems and decisions that adults face and at the same time the adults realized that students can offer them valuable information. The school actually became a resource for the community.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION

WEST JUNIOR HIGH SCHOOL OFFERS CONSUMER SERVICES

The Science and Home Economics classes of West Junior High School in Maple Heights have combined their efforts to offer their community a consumer service. The students will supply interested people with valuable information which will enable them to make wiser decisions. For example, are you interested in adopting children? Does Vitamin E really retard aging? How do you prevent your car from rusting? Are some convenience foods really less expensive than ones made at home? What are the advantages of buying a condominium? Are the figure and beauty aides you can send for in magazines only frauds? What factors should you consider when purchasing a vacuum cleaner? Information has been compiled on these topics and many more relating to Foodstuffs, Automobiles, Health Aides, Home Care, Appliances, etc.

All you do is send the form below, with the topic or topics you are interested in to West Junior High School, 5930 Glenwood Avenue, Maple Heights, Ohio 44137, with a self-addressed, stamped envelope. The students will compile the information and send it to you free of charge.

Why make an unnecessary mistake?

****

Please send me information on the following topic or topics:

NAME_____

ADDRESS_____

CITY AND STATE_____

FIGURE 3

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION

FOLLOWING IS A LIST OF TOPICS WE HAVE ALREADY RESEARCHED:

Foods

1. How To Buy Fresh Seafood.
2. How To Cut Food Costs.
3. Food Storage.
4. Nutrition Labeling.
5. Inorganic, Organic Foods.
6. Home Canning Safety.
7. Seasoning With Spices And Herbs.
8. Convenience Foods-Not Always The Most Expensive.
9. Shoppers Guide.
10. Minerals.
11. Vitamin C-Does It Prevent Colds.
12. Vitamin E-Aging And Virility.
13. Other Vitamins.
14. Microwave Ovens.
15. What About Bottled Water.
16. Nutrients.

Automobiles

1. 1976 Gas Mileage For New Cars.
2. Anti-tampering Odometer Law.
3. Buying Tires.
4. Automobile - Rust - Causes And Prevention.

Housing

1. How To Save On Your Electric Bill.
2. How To Insulate Your Home.
3. Carpets And Rugs.
4. Vacuum Cleaners.
5. Designs For Low Cost Wood Homes-Intriguing Designs.
6. Wise Home Buying.
7. Buying Small Appliances.
8. Exterior-Interior Wall Materials.
9. Condominiums.

Health

1. Swine Flu Vaccine.
2. Breast Self Examination.
3. What To Know About Cancer.
4. Women And The Pill.
5. I. U. D. 's.
6. Hypoallergenic Cosmetics.
7. Hearing Aids.
8. Shampoo's.
9. Beauty And Figure Aides-Are They Frauds.

Miscellaneous

1. Adopting Children.
2. Checklist For Going Into Business.
3. Occupational Opportunities.

FIGURE 4

WEST JUNIOR HIGH CONSUMER SERVICE

SUBJECT: How To Save On Your Home Electric Bill

SOURCE: Illuminating Company

Here are seven ways to save on your home electric bill:

1. Lighting: Larger bulbs are more efficient. Lighting represents 20% of electricity used in the home. You can enjoy more illumination while saving because larger size incandescent light bulbs are more efficient. You can get more light from several large bulbs than from twice as many small bulbs.

2. Electric Range: Approximately 80% of cooking is done on top of range and only about 20% in the oven. To save electricity, use the right size cooking utensils and when boiling water heat only amount needed. Aluminum utensils with bright shiny exteriors are best.

3. Oven: Use it to full advantage. When preheating oven, set control at the temperature needed to cook. Arrange oven racks before turning on oven. Use the full oven capacity when possible. Don't open oven door to peek in, use lights inside.

4. Electric Air Conditioners - Hands off Thermostat: Set the thermostat at a comfortable level and leave it there. Frequent resetting impairs efficient operation. Do not use a window fan when using air conditioner; open windows will admit humidity and warm air. Keep window shades closed on the sunny side of the house. Clean or replace air conditioner filters about once a month.

   Do not place any lamp, TV, or other heat producing device within three feet of indoor thermostat. Have system checked each year. Be sure that no room air registers, either supply or return, are obstructed by drapes or furniture.

5. The best recommendation for your Heating System is insulation. Proper insulation at least 8 inches thick, in ceilings $3\frac{1}{2}$ inches. Storm windows or double glazed windows will also reduce heat loss considerably. All outdoor entrances should be equipped with storm doors. Weatherstripping around doors and windows also helps insulate your home.

6. Refrigerator: Help keep it cool. If your refrigerator is not self defrosting, be sure to defrost it whenever the cooling coils accumulate more than 1/4 inch of ice.

7. Points about appliances: Clothes Dryer - do not overload or put in too small a load. Be sure clothes dryers are vented to the outdoors to eliminate added heat and moisture. Dishwasher - Do not use after every meal, wash only full loads.

FIGURE 5

WEST JUNIOR HIGH CONSUMER SERVICE

SUBJECT: 1976 Gas Mileage For New Cars

To get the best car mileage there are several factors that you must remember. Here is a list of some of these factors:

1. Vehicle weight and engine size are the most important factors. A 5,000 lb. car will require two times as much gas as a 2,500 lb. car. Optional equipment not only adds weight to the car but requires more gas to operate.

2. An automatic transmission usually reduces gas mileage compared with manual.

3. Rapid acceleration can reduce gas economy by 15% over moderate acceleration.

4. The best mileage occurs between 30 and 40 mph with no stops and no rapid speed changes.

5. Using radial tires, instead of conventional bias-ply tires, can result in a 3% improvement. Improper alignment and tires inflated below the recommended pressure will reduce mileage.

6. An idling engine burns about 1/2 pint of gas every six minutes.

7. A tuned car will average 6% better mileage. A properly maintained car also helps reduce air pollution.

8. Unnecessary braking, excessive driving in low gears, dragging brakes, and short trips also reduce fuel economy.

FIGURE 6

Project III - Individual Field Problems

Participants: Earth Science Students, Maple Hts., Ohio

Purpose:

To give students practical experience in observing environmental and geological processes such as weathering of various materials, e.g. sidewalks, bricks, driveways.

Procedure:

1. Each student chose a particular field problem on school property and described it. Observations were recorded at intervals of 4 weeks.
2. Students chose a particular object (for example one section of a sidewalk) and recorded the following:
    a. size
    b. shape
    c. texture
    d. composition
    e. color
    f. any observable features e.g. cracks, pitting, etc.

Results:

1. The students became aware of chemical and mechanical weathering on earth materials over a 9 month period.
2. The students learned the skills of drawing maps to scale.
3. The students learned to take very accurate field notes e.g. measurement of crack within a sidewalk block.

Project IV - Individual Field Problems

Participants: Biology Students, Maple Hts., Ohio

Purpose:

To give students practical experience in observing change in plants and animals.

Procedure:

Students chose a plant or animal and recorded the following:

a. size
b. shape
c. color
d. texture
e. any observable features

Results:

Students became aware of change due to time and season. For example they observed how their dog's coat is heavier during the winter months than in the summer, plants tend to grow faster during their growing seasons, etc.

Project V Economic Geology

Participants: Earth Science Classes, Maple Hts., Ohio

Purpose:

To make the students aware of the fact that many of the materials used to build their school are made from the rocks and minerals they study about in class.

Procedure:

Students were given handout sheets listing many objects throughout the school. They were to explain what materials made up these objects.

Results:

Students did become aware that many objects around them are made of earth materials which they had studied.

Name_____

Period_____

ECONOMIC GEOLOGY OF WEST JUNIOR HIGH SCHOOL

STATION 1 - Windows throughout school building

STATION 2 - All door handles (aluminum)

STATION 3 - The floor of the cafeteria (terrazzo flooring)

STATION 4 - Rock boarder on east entrance of building (near library)

STATION 5 - Vertical steel beams along outside windows (front entrance)

STATION 6 - The cinder rock making up the track

STATION 7 - All blackboards

STATION 8 - The red-brown flower pots in the greenhouse

STATION 9 - All concrete throughout the school (in and out)

STATION 10 - Plaster making up the walls

STATION 11 - Asphalt in parking lot and school driveways

STATION 12 - Brick throughout the school

Project VI - Locating Geological Hazards in Maple Hts.

Participants: Earth Science Students, Maple Hts., Ohio

Purpose:

To make students aware of problem areas in their community.

Procedure:

Students located and photographed geological hazards, for example, mudslides and deteriorating bridges in their community. They listed possible remedies for these problem areas.

Results:

Students became aware of geological hazards and possible remedies and procedures they might follow to make others aware of the problems and to help solve them.

Project VII - Compost As A Possible Heat Source

Participants: Earth Science Students, Maple Hts., Ohio

Purpose:

To design and create an alternative energy source.

Procedure:

Students are constructing a model compost heater run by convection current. A larger model of this could possibly supplement other heat sources.

Results:

Heater still under construction.

Project VIII - Infrared Photography

Participants: Science Students, Maple Hts., Ohio

Purpose:

To locate and study diseased trees in the Maple Hts. area.

Procedure:

Students took photographs of the trees within the school grounds with the infrared film.

Results:

Due to lack of time and technical skill with infrared photography, the results were rather poor but the students did become aware that it is possible to photograph and map diseased trees.

Project IX - "Everything You Always Wanted To Know About Earth Science" Night.

Participants: Earth Science Students, Maple Hts., Ohio

Purpose:

To acquaint the community with earth science as it affects everyday life.

Procedures:

In the beginning of the year, students helped to compile a list of 100 questions about Earth Science.

Results:

1. Because time did not permit we were not able to conduct a night session for the parents. However, throughout the year we covered the answers to the questions. Then the students took the questionnaires home and quizzed a member of their family. The students then reported what percentage their family member was able to answer correctly. It was found that on the average less than 50% could be answered correctly.
2. The students became aware that the average person has a rather limited knowledge of their environment which could cause them to make poor decisions concerning environmental issues.

Everything You Always Wanted To Know About Earth Science But Were Afraid To Ask -

1. Is the center of the earth liquid or solid?
2. What are the Northern Lights?
3. Why do we have mountains?
4. Do large lakes have tides?
5. Is the earth getting warmer or colder?
6. Why do we have oceans?
7. Why do the stars twinkle?
8. Why are great earthquakes not common to Ohio?
9. Why is England warmer than Ohio in the winter months, even though England is farther north?
10. Why do we have latitudes and longitudes?
11. Is our climate changing?
12. How fast does the earth rotate per hour?
13. Why don't compass needles point to true north and south?
14. What is a rainbow?
15. Why is the sky blue?
16. Why do we have seasons?
17. What is a cloud?
18. How old is the earth?
19. On a hot summer day, why do some roads look wet?
20. Why does the earth rotate?

21. What is a fossil?
22. Why do we have tides?
23. Why does the earth bulge at the equator?
24. Why do airline pilots bank their planes to the left in the Northern Hemisphere?
25. Will part of California fall into the Pacific Ocean?
26. Why do we have an atmosphere?
27. Where did the Great Lakes come from?
28. Is there a difference between temperature and heat?
29. Why do rivers bend?
30. What is the difference between fresh water and salt water fish?
31. What is a desert?
32. Can a desert have snow?
33. What causes ocean waves?
34. Has man ever reached the deepest part of the ocean?
35. What is a temperature inversion?
36. Why does the air smell very fresh after a thunderstorm?
37. Why do your ears "pop" when going up and down hills?
38. What is a mirage?
39. What makes one cloud different from another?
40. Why are some clouds white and others dark?
41. Does the atmosphere rotate with the earth?
42. If the earth did not rotate would we still have tides?
43. What is a living fossil?
44. Is there a difference between a mold and a cast?
45. What was the first life on earth?
46. How is coal formed?
47. What is the oldest living type of tree?
48. Why is the sea salty?
49. Why is the sky red at sunset?
50. Why can you see through glass?
51. What do the letters "AM" and "PM" mean?
52. Did earliest man and dinosaurs live at the same time?
53. Is the lead in a pencil really lead?
54. Why is there a leap year?
55. What is heat lightning?
56. Why does a train whistle seem to change its pitch as it passes?
57. Are meteors and meteorites the same thing?
58. Why do we have eclipses?
59. What is a tidal wave?
60. Does the moon rotate?
61. What is a mineral?
62. What is a rock?
63. What causes an earthquake?
64. What is lightning?
65. What is thunder?
66. Did fish originate in fresh or salt water?
67. How large were dinosaurs?
68. Why did the dinosaurs become extinct?
69. What was the Ice Age?
70. What is a glacier?

71. Are there any glaciers in existence today?
72. How fast can a glacier move?
73. What is sea level?
74. Do continents drift?
75. How much of a desert is sandy?
76. What is singing sand?
77. Why do we have more daylight hours in the summer than in the winter?
78. Why is it very important that ice is less dense than water?
79. What makes the wind blow?
80. Do ocean waves make the water move forward?
81. What is the difference between the ocean and the sea?
82. Where does volcanic heat come from?
83. What is the source of the earth's heat?
84. Where does lava come from?
85. Can volcanic eruptions be predicted?
86. Can earthquakes be predicted?
87. How deep do earthquakes occur?
88. How much does the ground move in an earthquake?
89. Are people swallowed up by earthquakes, or is that a Warner Brothers' trick?
90. Can earthquakes be heard?
91. Is the flow of water affected by quakes?
92. What is a seaquake?
93. What is the San Andreas fault?
94. Can rock bend?
95. What is soil?
96. How do landslides begin?
97. What is a salt lake?
98. What is a swamp?
99. Which is the city that waits to die?
100. How did we get here in the first place?

Project X - Maple Heights - San Francisco Schools

Participants: Earth Science Students, Maple Hts., Ohio

Purpose:

To familiarize students with the geological and climatic environment of an area different from their own.

Procedures:

1. Each participating student from the Cleveland area would be given the name of a student from the San Francisco area with whom he would correspond. The paired students would then write brief letters describing a particular aspect of the environments in which they live and relay the information they receive to their own classes.

2. During the project's second stage, the students' letters would be primarily concerned with inquiry. Such inquiries may have to do with factual information or student judgments and attitudes. In regard to the latter, for example, a student from San Francisco might ask a Cleveland student how living in a tornado belt has affected his life. Conversely, a Cleveland student might ask a San Francisco resident how he "feels" about living in an area that has undergone the effects of an earthquake.
3. The final stage of the program would involve the development of learning packages. The students from both areas would put together a slide show (with corresponding tape) that gives an overview of their region's geologic and climatic environment. In doing this, the students would take their own pictures and write their own scripts. A notebook and display samples might also be organized and packaged.

Results:

Did not receive any response to this date but students had a chance to organize this type of a project.

Project XI - Spanish Correspondence

Participants: Spanish Classes, Maple Hts., Ohio

Purpose:

1. To give the Spanish students experience in writing and using what they've learned in their Spanish course.
2. To secure first hand information on earthquakes from the people of Guatemala and to present this to the Science classes.

Procedures:

Letters were written to establish communication with various schools in Guatemala, Central America.

Results:

No response was received. However, the experience of writing for the Spanish students was beneficial.

Senior High School

Project I - Mural Project

Participants: Senior Commercial Art Students

Purpose:

1. To motivate students to develop their skills by doing large projects that will be seen by their classmates and will beautify the school and local environment.
2. To learn how to deal with customers as they would in the "real world".
3. To learn how to work in the midst of the public and how to put up with their comments, etc.

Procedure:

1. Rough sketches were produced by the students.
2. Five to six roughs were presented to prospective clients.
3. The client chose which sketch was most appropriate and then the student who did it dealt directly with the client in the execution of the mural.
4. Execution required the student to work on a variety of surfaces and adapt their technique to these.
5. A slide was taken of each mural for the student's portfolio.
6. Extension of this project appealed to the Maple Heights Community through slide presentations to service organizations. Members of these groups were asked to give students the opportunity to do murals in the city, e.g. banks, stores, churches, restaurants etc.

Results:

Several murals were completed in the senior high school, the high school stadium and in some local homes and businesses. The students who did the murals contracted with the persons requesting the work and in some cases were paid professional fees for their services.

Since dealing with clients is an integral part of this project, sometimes the process of doing this is filled with "brick walls" and other difficulties which interfer with getting the job done. Because this is a part of "real life", it is important for students to become aware of what is actually happening. What follows is the teacher's account of how dealing with clients figured into the execution of one mural project.

> During the first nine week period the Commercial Art II class was asked to contribute designs for the Stafford Stadium's front wall area (8' x 140'). Twenty sketches were submitted...
>
> During the first 9 week period the Commercial Art II class was asked to contribute designs for Stafford

Stadium's front wall area (8' x 140'). Twenty sketches were submitted for board approval and one was finally agreed upon (we thought). Six students were designated to paint this prize winning design, when the school board made a series of drastic, last minute changes which completely destroyed the artistic integrity of the original. The class arose in righteous indignation, appointed Robert Parina as legal counsel and had him draft a letter of protest to the High School Principal and the Business Manager, stating in no uncertain terms their objections.

This protestation went on to state that the class felt very strongly about having its best creation devitalized and dissected by a group of unknowledgeable laymen and under these conditions, preferred to leave the board employ a professional sign painter.

The powers in control saw the virtue of this orderly complaint, withdrew their criticisms and the job was executed as originally planned.

R. L. Tubbesing
Commercial Art II
Instructor

Project II - "The Best Things in Life Are Right Here in Maple"

Participants: Economics Students

This project, which uses the local community as a resource, took place during the second half of this one semester Economics course. During the first half of the semester this teacher prepared her students for individualized project work by giving them a stock market activity where they were required to choose a corporation, "buy" stock in it, follow its progress as reported in the daily newspaper, and record the number of shares they buy and sell and the amount of money they make or lose in the transactions.

What follows is the outline of the community business project that the teacher gave to her students.

ECONOMICS - March 1, 1977

Ms. Brannan

Project: "The Best Things in Life Are Right Here in Maple"

Note to Students: It has been my experience as a teacher that if a student has had a job or is presently working while taking this course that he/she will learn more about the subject "economics". Therefore, this project is designed to give

practical experience.

Purpose of Project:

1. To learn about the complexities of a particular business by using the case study method (practical experience).
2. To gain insight and knowledge of a business by contacting and interviewing owners, managers, and other employees and by visiting the plant, offices, etc.
3. To understand how economic theories (i. e. supply and demand, pricing, advertising) have practical applications in solving business problems such as production, management, labor relations and cost problems.
4. To become knowledgeable about how scarce energy supplies have or have not affected this business.
5. To learn how the U. S. federal, state and local governments become involved in private enterprise.

How to Do this Project:

1. Choose a local business that you would like to learn about.
2. Decide to work by yourself or with several other students, (Check this with me.)
3. Contact someone associated with the business who has the authority to approve of this project. Obtain approval and let me know.
4. Buy a spiral notebook to use for this project. This will be your "Journal" (written project). Keep a record of your activities (i. e. date and content of phone calls, brief summary of articles you read, visits, interviews, observations, etc.) This is a working record. Make frequent entries into your Journal. Do not copy it later. I will want to see it on Mondays during class in order to help with any problems you may encounter. If you choose to work with others, each of you is to keep a separate Journal. I assume that you will divide the project and that each will explore a separate area of the business such as production, management, labor, etc.

Grading of Project:

1. Oral report of class of what you did and what you learned. ....Graded by individuals from committees made up of students. Each student will receive a grade on the oral report which will be equal to two test grades.
2. Journal report grade will be equal to two test grades.
3. Subjective grade from me equal to one test grade awarded for enthusiasm!

Because this teacher actively participated in the inservice workshop, more information about the results of this project can be found in Section II page I-27 and in the Appendix pages A-11 to 13 of this report.

Project III - The First Whole Cleveland

Catalogue: Writing Workshop project

Participants: Sophomore English Students

Purpose:

To give students the opportunity to use in a practical way everything they have learned in their Writing Workshop course, they

1. wrote a narrative folk tale.
2. used descriptive writing in composing the entries on their topic.
3. used argumentation in writing about the good and bad points of each entry.
4. used research skills in gathering the information on their topic.

Procedure:

1. The teacher gave each student a copy of the following instruction sheet.

THE FIRST WHOLE CLEVELAND CATALOG

This will be a catalog that provides Clevelanders and non-Clevelanders with information on the area.

Material to be included must meet the following criteria:

1. Useful as a tool,
2. Relevant to educating oneself or others,
3. High quality and/or low cost, also unique,
4. Available in the Cleveland area.

The catalog will be divided into 11 categories:

1. shelter
2. industry
3. crafts
4. community
5. nomadics
6. communications
7. learning
8. sports
9. entertainment
10. clothing
11. food

There will also be a continuing folk tale of the adventures of "Mark Maple" as he travels across the U.S.A. in his van.

Since this is a large assignment, the class will be divided into groups with no more than 5 and no less than 3 to a group. You may choose your own topic and group, but topics will be on a first come basis. There will not be 2 groups doing 1 topic.

REQUIREMENTS

40 acceptable sources = A 200 points
30 acceptable sources = B 160 points
20 acceptable sources = C 140 points
10 acceptable sources = D 120 points

Paper is due June 3

Paper MUST be typed and double spaced

Each group must present a 250 word narrative on the adventures of "Mark Maple."

---

2. After the students chose their topic, they began looking for resources using the Yellow Pages, local newspapers, and magazines. Government Agencies and Chamber of Commerces were also good sources of information.
3. Students made a list of the places they will contact.
4. Students contacted managers of places to set up appointments for visits and interviews. Before making the phone calls students wrote down what they were going to say.
5. Students could use two half days, one morning and one afternoon, for field research. Each group had to submit a list of who was going on the field trip, where they were going, and when, to the teacher along with their completed permission forms. If they didn't get all their work done on their field trips, they had to use their own time.
6. Students visited and interviewed their sources, and collected any available printed information.
7. Time was provided in class to write a one page review of each source stating good and bad points, cost, how it compared with others in the area, and whether they recommend it.
8. To be acceptable the review must be well written and fit into the category. It must also list the address of the source and any cost involved in the product or service.

This teacher attended the Oral History Workshop and used the interviewing ideas and skills from the workshop in this project.

Project IV - Oral History Project

Participants: Senior High English students
Maple Heights Regional Branch of the Cuyahoga County Library
Junior Commercial Art Students

Purpose:

Th's project was intended to serve as a means by which the history of Maple Heights, as seen through the eyes of the citizens of this city

DATE OF FIELD TRIP _____

PURPOSE OF FIELD TRIP _____

_____

DESTINATION _____

MEANS OF TRANSPORTATION _____

_____

NAME _____

_____

COURSE FIELD TRIP IS FOR _____

_____

TEACHERS SIGNATURE

(This field trip <u>is not</u> mandatory. If the student will miss something <u>vital</u> in your class they do not need to go.)

1° _____ 5° _____

2° _____ 6° _____

3° _____ 7° _____

4° _____

PARENTS SIGNATURE

_____

could be recorded and preserved. The library was already doing this research; students assisted them in this endeavor.

Procedure:

1. The library and the Maple Heights Environmental Education Program sponsored an oral history contest which was open to all secondary school students.
2. Junior Commercial Art students made posters to publicize the project.
3. Packets of guideline information patterned after those used by Cleveland's Western Reserve Historical Society's Oral History Contest were made available at each secondary school and the library.
4. Students chose a topic of interest, researched it, and interviewed a resident or residents versed in the topic recording the interview(s) on tape.
5. Students prepared either an essay. a narrative tape, or a slide-tape program on their topic to enter in the contest.
6. Taped interviews and a copy of each entry became the property of the Maple Heights Library.
7. Entries were judged by a group of persons composed of a senior citizen, the city historian, a teacher, a student, and the librarian presently doing oral research. These people were selected by the librarian and Environmental Education Coordinator who were directing the project. The judges used the criteria sheet on the following page to evaluate each entry.
8. Seventy-five dollars of prize money provided by the Maple Heights Bicentennial Committee was divided among the students who produced the best entries.

Results:

The journalism teacher used the oral history project as an assignment for her students. The bulk of the contest entries came from this class.

Another English teacher used the oral history project along with an excerpt from Working by Studs Terkel which appeared in Literary Cavalcade Magazine. The students read the excerpt and then chose a family member or close friend to interview about their job.

Some of the questions they asked were

1. What is your position/career?
2. What are the positive and negative aspects of your job?
3. What is your job description?
4. Would you like to change jobs, or are you satisfied?
5. Are you pleased with the salary?
6. How has your job influenced your family life?

They were told to encourage their interviewees to express their feelings about their jobs.

ORAL HISTORY CRITERIA

1. Organization: Does the tape or essay have a logical sequence e.g. Introduction, Body, Conclusion?

Poor	Fair	Satisfactory	Good	Excellent
0	1	2	3	4

2. Is there evidence that enough research was done on the topic?

0	1	2	3	4

3. Was the topic of the tape or essay narrowed down sufficiently so that it could be treated in enough depth?

0	1	2	3	4

4. Is there evidence of creative thought and originality in the production of the tape or essay?

0	1	2	3	4

5. Is the topic relevant to the past, present, or future of Maple Heights?

0	1	2	3	4

6. Technical Aspects: Tapes -- clearly recorded, indexed, edited, etc.; Essays: neat, legible, indexed, etc.

0	1	2	3	4

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION

GUIDELINES FOR STUDENTS' ENTRIES

I The 1,000-2,5000 Word Essay

It is necessary that you research your topic before seeing your interviewee. However, if your interviewee is going away before you have time to complete your research, do as much as you can before meeting your interviewee. An uninformed, unprepared interviewer can mess up an interview and make it an embarrassing and unpleasant occasion for both participants.

Direct quotations from the tape are expected in the essay, but limit your quotation to a reasonable length, probably not more than 1/4 of your paper.

A bibliography is required. Footnote citations to sources used should be included at the end of the paper along with the bibliography.

The essay may be either typed or handwritten. Double space both typing and writing. Write or type on one side only.

It would be courteous to furnish your interviewee with a copy of your final draft.

Judging will be based on your grasp of the history involved in your topic, upon how clearly you express yourself, and upon the original way you use the material of the interview.

II The Narrative Tape

If you wish to present your interview in the form of a narrative tape, copy your existing tape unto a longer tape and splice it to bring in your own material. The narrative tape should resemble the essay in category I. The narrative should not run more than 2,500 words, which will take probably a little more than ten minutes.

III The Slide-Tape Show

This type of entry lends itself most readily to group work. Please limit your group to 5 persons or less. You will no doubt consult with your school's audio-visual department.

The slide-tape show should last not more than ten minutes.

DEADLINES:

All student entries except the slide-tape shows should be in the hands of the

Maple Heights Regional Library by April 1, 1977. That means that arrangements should be made for mailing or delivery the week before. The entries, whether written work or tapes, should be addressed to:

Ms. Cathy Monnin
Cuyahoga County Public Library
Maple Heights Regional Branch
15901 Libby Road
Maple Heights, Ohio 44137

Unless you are otherwise advised, slide-tape shows should be brought to the Maple Heights Regional Library on Saturday, April 2, 1977 for a special judging session from 10:00 A.M. to 12:00 Noon. Students will be expected to bring their own equipment and to present their shows during this time. There will not be time to have these presentations at the awards day ceremonies on Sunday, April 24, 1977.

TIPS AND TECHNIQUES FOR THE STUDENT INTERVIEWER

I Topic Selection

A. The sources of your topics will be as follows:

1. The list of topics and interviewees will be distributed to your school. Interviewees will list topics they wish to discuss.

2. Topics and interviewees of your own choice. In this category, you must inform your teacher what topic you have chosen and who your interviewee will be. Your topic must have his/her approval. There should be something historical about the topic, and it should relate to Maple Heights.

3. Your own family history. In this category, your own family members will be the interviewees. Of course, non-American scenes and episodes which are part of your family history are admissable material.

B. Your topic should be of manageable size. If your interviewee is an expert on a broad topic, you and your interviewee will need to determine what part of the topic he/she will discuss. Some preliminary discussion may be necessary, but avoid having the whole interview spill out before you are armed with your tape recorder.

II Planning Your Interview and First Contacts With Your Interviewee

Make contact by telephone with your interviewee, or if you prefer, write him/her to introduce yourself. Tell him/her which of the topics he/she has listed (there usually will be more than one) that interest you. Settle on the topic; then ask for an appointment, but allow yourself four to six weeks to do research on your topic before going for the interview.

Some interviewees may be going south before you have had time to complete your research. In such cases, do what you can to research your topic, and then go for the interview. Remember, however, that IF YOU ARE UNINFORMED AND UNPREPARED, THE INTERVIEW WILL BE WORTHLESS AND AN EMBARRASSMENT TO ALL CONCERNED.

Keep in mind that the interviewee may have letters, photographs, diaries, scrapbooks, etc., pertaining to your topic. If by any chance he/she will let you see these materials, make use of them in preparation for the interview.

Inform the interviewee how you plan to use the tape. The Maple Heights Regional Library expects to act as repository for the tapes.

Make written notes of any preliminary conversations with the interviewee for use in your research.

III Pre-Interview Research

Become thoroughly grounded in your topic by:

A. Researching your topic in books, magazines, and newspaper files.
B. The Bedford Historical Society is in this area; visit it to determine if it has manuscripts and other unpublished documents on your topic.
C. Reviewing your notes from preliminary conversations.
D. Contacting friends of the interviewee, if possible.
E. The Maple Heights Regional Library has a file on Maple Heights. You might find some information on your tapes there.

IV Interview Outline

Prepare an interview outline. If you expect there will be more than one session, plan a master outline and then a detailed outline for each session.

Send a copy of the outline to your interviewee, so that he/she may prepare him/herself better for the interview.

Do not write out detailed questions with the idea of reading them to the interviewee. Your interview will become stiff and formal, and you will "turn off" your interviewee.

V Technical Matters

For ease of taping, greater use is now being made of cassettes. C-90 tape length will give 45 minutes to a side.

The 3-3/4 ips speed is the slowest that should be used for good quality reproduction.

If a great deal of splicing and editing will be done to the tape, reel to reel tape recorders should be used.

Some cassette recorders have sensors which, with the tape designed for such use, permit an alarm to be sounded when the tape has come to its end, thus preventing part of the interview from being missed.

Two microphones should be used. If your recorder has only one jack for a microphone, a small "t-jack" is on the market which will permit the use of two microphones on one connection.

If you can find a cassette or a reel to reel machine equipped with counters, you will be much better off when it comes to indexing your tapes.

Practice with your tape recorder until you can operate it by instinct.

Before the interview, check to insure that equipment works.

Bring spare tapes.

Bring extension cord.

VI The Interview

1. Call the interviewee shortly before your appointment to reconfirm the time and place. It is common courtesy; besides, older people can be forgetful.

2. Leave enough blank tape at the beginning of the tape so that you can add an introduction. Don't let interviewee hear an introduction - he/she may freeze. Add your introduction after you have left the scene of the interview.

3. Interview in a quiet place. Avoid having third persons present.

4. Place the tape recorder in an inconspicuous spot.

5. Test how the interviewee's voice sounds on the recorder before you start.

6. An interview is not a dialogue. The interview belongs to the interviewee; let him/her do the talking. Limit your remarks to a few pleasantries to start off the interview.

7. In spite of the foregoing in #6, try to direct the interview in a way that is tactful and not obvious.

8. Although you may feel better informed about a certain event than the interviewee because you have recently studied it, do not give the impression of being a "know-it-all."

9. Relax and speak conversationally.

10. Encourage your interviewee to be as specific as possible. Take notes, as you go along, of names, places, dates, and anything else in the interview that you are not sure about. When the tape recording has ended, check these details with your interviewee.

11. Avoid using questions which can be answered by "yes" or "no".

12. Ask only one question at a time.

13. To draw out information, it is sometimes useful to ask questions in a negative manner: "wasn't he a poor mayor?" or "He wasn't a very good businessman, was he?"

14. Questions should be brief.

15. Initial questions should be non-controversial. If you have to ask delicate questions, save them for later opportune moments.

16. Don't let periods of silence fluster you. Give your interviewee a chance to think about what he wants to say before you interrupt with the next question.

17. Avoid, if you can, an interviewee's desire to speak "off the record." Your entire interview may end up "off the record" and therefore off the tape.

18. Avoid challenging the interviewee. You may find a way to suggest tactfully that you have heard of a different viewpoint; or it may be best simply to go on and check out your other sources later.

19. Do not interrupt a good story because you have thought of a question, or because the interviewee has strayed from the point temporarily.

20. If he does stray from the point at length, politely pull him back to the subject at the first opportunity, by saying "You were discussing....."

21. Do not switch recorder off and on; if you do, give notice to the future listener to your tape by saying, "Resuming the interview....."

22. When you see the tape coming to an end, find a good place to stop the discussion. After the tape is turned over, restart the interview by saying, "You were talking about....."

23. Limit the interview to 1-1/2 hours maximum.

VII <u>After The Interview</u>

Obtain a release from the interviewee of the material which has been taped. The legal release form provided must be signed. We hope that the interviewee will not wish to restrict any of the information he/she has spoken during the interview. If he/she does, you will have to be certain that such restrictions are carefully included in your indexing of the tape. If there is more than one interview, interviewee should initial the description of the additional interviews at the bottom of the release form.

After the interview, label the tape with interviewee's name, your name, date, length of time of recording, speed, topic or topics, and location of the interview. If there is more than one tape, number the tapes.

Index the tape in the following manner: (The numbers refer to minutes.)

00 to 07	The Great Depression
07 to 13	How Mr. X kept his job... etc.

What you do with the tape depends on how you are going to present your material. After you have prepared your essay, taped narrative, slide-tape show, edited tape, or transcript, the interviewee should receive a copy of the tape. Since the release signed by your interviewee will be a piece of paper with "Maple Heights Regional Library" as its letterhead, the tapes, or copies of them, are expected to be deposited with the Maple Heights Regional Library.

Dear M

I am a student in the _____grade at _____
(School)
_____. I am taking part in the Maple Heights Bicentennial Oral
(School)
History Project. The Maple Heights Bicentennial Oral History Committee has given me your name as a person who might be willing to be interviewed. I am particularly interested in the following topic (s). _____

_____ about which I understand you have information.

I do not expect to be able to see you for several weeks until I have completed my research, but I would like to make an appointment now. I shall telephone you soon in order to arrange a time.

Thank you very much for your interest in our Project.

Very truly yours,

_____
(Name of student)

_____
(Address of student)

_____
(Home telephone No. of student)

CUYAHOGA COUNTY PUBLIC LIBRARY
MAPLE HEIGHTS REGIONAL BRANCH
15901 Libby Road
Maple Heights, Ohio 44137

I hereby give and grant to the Maple Heights Regional Library as a donation for such scholarly and educational purposes as the Library shall determine the tape recordings and their contents listed below.

_____
Name of interviewee

_____

_____
Address of interviewee

_____
Name of interviewer

_____
School of interviewer

_____

_____
Address of school

_____
Date of agreement

Topics of Tapes	Dates Recorded	Interviewee's Initials

After the interviews, students were to produce a written report. Extra credit was given if the report was accompanied by a tape of the interview.

The teacher indicated that everyone turned in a written report; only one person included a tape. She felt that there was not enough detail, perhaps because there was not enough background information provided. If students had the opportunity to read more selections from Working, analyze the style, feelings and attitudes, and practice interviewing each other, the quality of their work would probably improve.

Project V - Using the Community as a Resource in U.S. Government Survey

Participants: Senior High School Government Students

Purpose:

In order to give students the opportunity to see how the various parts of government operate, this teacher had them contact different agencies for information. When possible the students also visited and interviewed. The following is an example of a U.S. Government Survey field experience.

-- Foreign Consulates --

Procedure:

1. Students were curious about the nature of a consulate.
2. Teacher suggested that they go and sit in an office for a day.
3. Students didn't believe that there were any consulates in the area, so they looked in the telephone book and found which ones were in town.
4. Students telephoned consulates to make appointments.
5. They researched consulates to find out what they do and then developed interview questions.
6. Students then had to organize their field trip. Some of these students' major concerns were what they were going to wear and where they would eat lunch.
7. Students completed and turned in permission form.
8. They took public transportation from school to downtown Cleveland.
9. This teacher required her students to telephone her when they reach their destination.

Results:

In doing this particular field activity, the students encountered the following problems and situations

1. One consul was very rude.
2. One secretary did not speak English.
3. Two of the consuls were very helpful.

As a result of doing this project, the students learned what consulates are really like which was much different than their original idea.

Project VI - Student Levy Committee

Participants: Students from grades 10, 11, 12 guided by one English teacher

Purpose:

Students decided that a good way for them to gain credibility as responsible citizens, would be to help with the school levy campaign.

Procedure:

Students organized themselves into committees to work on various aspects of the levy campaign. Most of their work was in contacting residents by phone, writing letters to the local media, distributing literature, making signs, raising money, promoting voter registration, and organizing a parade. They also worked closely with the adult levy committee.

Results:

The project was a great success, because the levy passed, and the students learned more about their community by providing this service than they ever could have from books.

Project VII - Community Problem Solving

Participants: Environmental Studies Classes

Purpose:

Students were given the opportunity to study various aspects of the local environment, identify problems and plan methods of solving these problems.

Procedure:

1. To identify problems in the local community students did the following activities
   a.) Composed questionnaires to survey their neighborhoods.
   b.) Compiled the results of the questionnaires to determine what the major problems were in each neighborhood.
   c.) Went on field trips to a local shopping center to determine its good and bad points, and to plan solutions for some of the problems.

2. Students then chose a problem to work on either by themselves or in groups. Two groups were not permitted to work on the same problem.

3. As a preliminary to their actual research, students were required to write a plan stating the problem, what they already know about the situation, and where they could get further information.
4. Certain days of the week were designed for research. Students wanting to do field work had to complete the permission form and return it to the teacher the day before the planned trip.
5. At the end of each week, each student was required to write a summary of the week's research work stating what was done, what was found out, what problems were encountered, how they were dealt with, and what still needed to be done.
6. At the end of the research period each group wrote a final report and presented their results orally to the class.

Results:

Many students got actively involved in their community. Some of them were able to call attention to certain problems existing in their neighborhoods and get something done to change the situation. Those students who weren't able to solve their research problem provided the ground work, so that a future class can continue working on it.

DAILY FIELD WORK SHEET Environmental Studies Classes

Name(s).....

Date of Requested Trip.....

Purpose: Why do you want to leave the building?.....

.....

Means of Transportation: How will you get to your destination and return to school?

.....

Destination	Time Schedule

Approved by:

Teacher's signature.....

Parent's signature.....

Signatures of teachers whose classes you will need to be excused from

.....

.....

This FIELD WORK SHEET must be turned in to Ms. Toth no later than the day before the planned trip

SECTION IV

APPENDIX

PROJECT OUTLINE FROM ONE ELEMENTARY TEACHER

SELECTED SECONDARY TEACHER QUESTIONNAIRES

SAMPLE STUDENT QUESTIONNAIRE

USEFUL MATERIALS

Outline of one elementary teacher's project with third graders.

I. Through the use of a bulletin board display the five senses were introduced.

II. We took a walk through the playground to put the senses to work.

A. I greatly underemphasized the sense of taste as I didn't want any experimenting.

B. The class was kept pretty much in a line perhaps this accounted for the stereotyping of answers. They were outside so they must smell fresh air. They saw flowers so they must smell them. All of which is not necessarily true. I was a bit disappointed at this time, although the class was delighted to have this time outside and to sit under a tree for the discussion.

III. Using the health book we concentrated on the sense of sight with some mention of nerves to and from the brain and the muscles.

IV. Using the alphabet letters we noticed straight lines, curves, etc., and how they looked upside down, etc.

V. Each child was assigned a letter and out he went to find it.

A. This time I let them out on their own as long as they stayed on the school grounds and came when the whistle blew.

B. No one fooled around and they were not satisfied with finding and sketching their letter once -- they kept trying to find it again and again.

C. Everybody was very eager to help somebody else and not once did I hear the words "stupid" or "dumb".

D. Only one person wanted to use a printed letter as the school sign.

E. After we came in the building, the children kept finding letter shapes in the room.

VI. We made and discussed our booklets.

VII. We used mostly distance viewing for our letters. Next I would like to go out with magnifying lenses and do some close-up viewing.

General Comments:

1. I think another time I would allow more time and not have such a teacher-structured program.

2. There was never any question about the class doing the work; but the real progress was in their working together.

3. I think the whole year program needs more opportunity for work in which the answers are neither wrong nor right.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
Program Evaluation
Teacher Questionnaire

I Did you participate in the Environmental Education Inservice Workshop on March 29?

Yes

II a. What type of Environmental Education project or activity did you do with your students? Describe goals, objectives, learning experiences.

1) Lead testing research - My home economics classes did literature reviews of articles concerning lead poisoning - where lead is found, how it affects humans, etc. in preparation for the lead testing service of Mr. Frankovits' science classes.

2) Consumer Service Board - in conjunction with the science classes, my home economics classes wrote for pamphlets from the U.S. Consumer Service Board. The students then summarized the articles and sent them to interested people.

Both projects were made available to the people of Maple Heights and surrounding communities.

b. What grade level are your students?

9th

c. In what subject area was the project or activity?

Vocational Home Economics

d. Did you plan it alone or with your students?

with my students

III a. Was this project or activity different from what you usually do with your students?

Yes

b. In what ways?

We always study consumer education but we had never before done a community service project in connection with it.

c. How did you modify your teaching method, relationship with your students, and/or relationship with other teachers in your building to suit this project or activity?

I planned and carried out this project with the science teacher which helped to show the students how the two areas are interrelated.

d. What steps did you take to make the transition?

We had students from each class reporting to the other classes what they were finding out, accomplishing, etc.

e. What made the change easy or difficult?

Good cooperation from teacher. Mostly good cooperation from students. Of course a few were not very interested and did not do their part.

f. If you were doing a similar project or activity with your students in the future, how would you modify what you did this time?

Now that I've done this type of project before, next time I would build it up more beforehand and try to get the students really motivated and excited before we ever begin.

IV a. What references and resource persons did you use in the design of the activity or project?

Nick Frankovits - resource person
U.S. Consumer Services
Many magazine articles

b. What materials, references, resource persons did the students use during the project?

Same

c. Were any new topics, ideas, or directions introduced in the project that you didn't originally plan? What were they? How did they come up?

Boys in science classes learned that home economics is not all "cooking and sewing." Also lead project was originally planned just for the students benefit but was later expanded to the community.

d. Who introduced them? Teacher, students, teacher and students together.

Expansion - students

V a. On what did you base your student's progress and learning?

I did give the student's a few essay questions to answer and I also graded them by their class discussion and participation in the project.

b. In your opinion, was the project a success?
Why? / Why not?

Yes. - I do think the students gained new knowledge and insights. I know I learned a lot. The experience of reading the consumer articles and rewriting them in their own words was great. The public seemed to appreciate our efforts as we had good response from them.

c. What did you learn about yourself from this experience?

I like the idea of doing new and different projects with my students and the satisfaction I get from doing something I feel is worthwhile and beneficial to myself, my students and the community.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
Program Evaluation
Teacher Questionnaire

I Did you participate in the Environmental Education Inservice Workshop on March 29?

Yes

II a. What type of Environmental Education project or activity did you do with your students? Describe goals, objectives, learning experiences.

First one was study of light pollution. Main goal was to determine if light pollution could be considered a real problem. Public contact, government involvement, getting help from community resources, like universities.

b. What grade level are your students?

9

c. In what subject area was the project or activity?

Earth Science

d. Did you plan it alone or with your students?

Both, mostly with students.

III a. Was this project or activity different from what you usually do with your students?

Yes

b. In what ways?

Most planning drawn from (pulled out of) the students - more activity.

c. How did you modify your teaching method, relationship with your students, and/or relationship with other teachers in your building to suit this project or activity?

More of a learning experience for myself - had to work for and offer more cooperation.

d. What steps did you take to make the transition?

General discussions on approaches to problems and scientific methods.

e. What made the change easy or difficult?

Students were receptive to the idea (basically) but, it was very difficult to get them to initiate and act on any ideas.

f. If you were doing a similar project or activity with your students in the future, how would you modify what you did this time?

I would develop one very simple example of a problem to use as a basis for developing methods to work on projects.

IV a. What references and resource persons did you use in the design of the activity or project?

College and University professors were consulted - government officials, various business people.

b. What materials, references, resource persons did the students use during the project?

Same

c. Were any new topics, ideas, or directions introduced in the project that you didn't originally plan? What were they? How did they come up?

When working on the light pollution problem we simply evolved into a a more general analysis of visual pollution. The Maple Heights strip along Northfield Rd. prompted this.

d. Who introduced them? Teacher, students, teacher and students together.

teacher and students together

V a. On what did you base your student's progress and learning?

A knowledge of the process used in working on a problem was essential. I looked for an increase in the students ability to find an answer rather than to simply know an answer.

b. In your opinion, was the project a success?
Why? / Why not?

No - it worked well to an extent, but it served more as an introduction to the kind of class it could be (and I suppose in that respect it was successful).

c. What did you learn about yourself from this experience?

I learned that given the best of conditions, I could handle that kind of a class all the time.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
Program Evaluation
Teacher Questionnaire

I Did you participate in the Environmental Education Inservice Workshop on March 29?

No

II a. What type of Environmental Education project or activity did you do with your students? Describe goals, objectives, learning experiences.

We did the activity concerning items that could not be photographed. I am currently working on predator-prey relationship - we went outside, discussed the activity, talked about parent-child as predator-prey relationship and finally assigned a composition that talked about student-teacher as a predator-prey relationship. We spent a couple of classes discussing various aspects of the topic. I was primarily interested in this assignment as an intellectual activity.

b. What grade level are your students?

ninth grade - top group

c. In what subject area was the project or activity?

English - formal writing mini course

d. Did you plan it alone or with your students?

I planned the original idea but my students determined the focus of the writing assignment itself after discussing various aspects of predator-prey relationships in our society.

III a. Was this project or activity different from what you usually do with your students?

Not really

b. In what ways?

c. How did you modify your teaching method, relationship with your students, and/or relationship with other teachers in your building to suit this project or activity?

I did not have to a great deal. The primary difference lied in the fact that I felt I had to emphasize a trusting relationship a little more than usual. - I wanted them to use specific examples which obviously

necessitated naming specific individuals.

d. What steps did you take to make the transition?

Through informal classroom discussion, I attempted to establish an even firmer trusting relationship so that they would be as honest as possible in their compositions.

e. What made the change easy or difficult?

Easy alteration because I feel I had already established a good rapport with the students, so I just had to go a little further.

f. If you were doing a similar project or activity with your students in the future, how would you modify what you did this time?

I am really quite pleased with the way things went for the most part.

IV a. What references and resource persons did you use in the design of the activity or project?

None. The only time things like this came up was in general classroom discussion in terms of existing predator-prey relationships in society - ex. - police - citizens. They were not used directly!

b. What materials, references, resource persons did the students use during the project?

None

c. Were any new topics, ideas, or directions introduced in the project that you didn't originally plan? What were they? How did they come up?

Nothing to really speak of except overall format. Upon starting the assignment I knew I wanted to have the students consider predator-prey in terms of personal relationships- it was not until I started discussing ideas with the class that the end result materialized.

d. Who introduced them? Teacher, students, teacher and students together.

teacher - but students clarified some aspects.

V a. On what did you base your student's progress and learning?

Discussion and written papers that expressed their thoughts.

b. In your opinion, was the project a success?
Why? / Why not?

Yes. Students need as much practice as possible in abstract thinking. I feel the assignment was also a positive experience from the students' point of view.

c. What did you learn about yourself from this experience?

I learned that students are sometimes capable of very "deep thought" when pushed, something I don't always do to my own satisfaction. It was also very gratifying to my ego that the students trust me enough to be open and honest in their compositions.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
Program Evaluation
Teacher Questionnaire

I Did you participate in the Environmental Education Inservice Workshop on March 29?

Yes

II a. What type of Environmental Education project or activity did you do with your students? Describe goals, objectives, learning experiences.

I teach economics. My students used the case study method to examine local businesses. (Purpose of project is included in the High School part in Section III.)

b. What grade level are your students?

3 soph., 10 jr., 18 sr. = 31

c. In what subject area was the project or activity?

Economics

d. Did you plan it alone or with your students?

I planned the general project. They chose the business.

III a. Was this project or activity different from what you usually do with your students?

Yes

b. In what ways?

1) field work, 2) interviewing was involved, 3) students kept a journal. (different type of report)

c. How did you modify your teaching method, relationship with your students, and/or relationship with other teachers in your building to suit this project or activity?

Teaching method was less teacher oriented. Other teachers cooperated. Students made up classes easily.

d. What steps did you take to make the transition?

Just planned a time table. Several weeks to develop ideas, several

weeks to do the project and a week for oral presentations.

e. What made the change easy or difficult?

The more planning, the easier the change was.

f. If you were doing a similar project or activity with your students in the future, how would you modify what you did this time?

I would encourage them to begin interviewing and visiting earlier because once they began doing this they became more enthusiastic. Hopefully the projects would be more thorough.

IV a. What references and resource persons did you use in the design of the activity or project?

1) Ms. Toth
2) Previous experience at John Carroll - Economics workshop - Case study method.

b. What materials, references, resource persons did the students use during the project?

Everybody: proprietors of various businesses, banks, accountants, hospitals, - etc.

c. Were any new topics, ideas, or directions introduced in the project that you didn't originally plan? What were they? How did they come up?

I began to encourage my students to choose a business area for the project that might provide future job possibilities for them.

d. Who introduced them? Teacher, students, teacher and students together.

Probably - both students and teacher

V a. On what did you base your student's progress and learning?

How well they demonstrated what they learned through oral presentations.

b. In your opinion, was the project a success?
Why? / Why not?

Yes. - Because of students interest and enthusiasm. I usually get to know the outgoing students well anyway, but I feel that I know the "quiet" person a little better.

c. What did you learn about yourself from this experience?

This was harder work - but more fun.

MAPLE HEIGHTS CITY SCHOOLS
ENVIRONMENTAL EDUCATION
Program Evaluation
Teacher Questionnaire

I Did you participate in the Environmental Education Inservice Workshop on March 29?

Yes

II a. What type of Environmental Education project or activity did you do with your students? Describe goals, objectives, learning experiences.

The class painted murals ranging from pure abstracts to realistic social criticism and brightened up dull drab areas. Students learned to handle large areas of color and to design for impact.

b. What grade level are your students?

Seniors

c. In what subject area was the project or activity?

Commercial Art

d. Did you plan it alone or with your students?

with students

III a. Was this project or activity different from what you usually do with your students?

Yes

b. In what ways?

The students seldom have such an opportunity to work all alone or to take such full responsibilities.

c. How did you modify your teaching method, relationship with your students, and/or relationship with other teachers in your building to suit this project or activity?

Each student had to contact a teacher, "sell" his mural design and then be fully responsible for execution.

d. What steps did you take to make the transition?

Lectures, slide programs and preliminary in-room designs were executed.

e. What made the change easy or difficult?

The greatest difficulty was the student's new experience in working directly under the public's pitiless gaze.

f. If you were doing a similar project or activity with your students in the future, how would you modify what you did this time?

More publicity, better planning and coordinating, tighter deadlines.

IV a. What references and resource persons did you use in the design of the activity or project?

Guest lecturer, R. Barnes, St. Regis Paper Co. art director, slides and class demonstrations of instructor's work.

b. What materials, references, resource persons did the students use during the project?

Latex paint, acrylic paint, any book, picture, or print pertinent to mural's subject.

c. Were any new topics, ideas, or directions introduced in the project that you didn't originally plan? What were they? How did they come up?

Yes. Questions on how to deal with the customer and/or public, what to charge for a mural, through every day experience on the job.

d. Who introduced them? Teacher, students, teacher and students together.

Teacher and students.

V a. On what did you base your student's progress and learning?

The finished product - quality and meeting a deadline.

b. In your opinion, was the project a success?
Why? / Why not?

Yes. We achieved some favorable publicity, beautified the school and gave the students pride in their work.

c. What did you learn about yourself from this experience?

That the most difficult task for an artist is to oversee someone else's work. It is most difficult to handle such a project with patience and tactful criticism.

STUDENT

SCHOOL_____AREA_____GRADE LEVEL_____

Please answer the following questions the best you can, all comments will be appreciated.

I a. You are taking an environmental education course. What do you like best about this way of approaching learning?

b. What do you like least?

II a. Is this course different in any way from the others you have taken? How?

b. Why did you take the course?

III a. In what ways is your work in this course different from that in other courses that are more traditional?

b. Do you have a textbook for this class?

c. How necessary is it?

d. Does your teacher lecture in this class?

e. Do you have class discussions or planning sessions?

f. What portion of your time devoted to this course is spent in independent study?

IV a. Did you like this course?

b. What changes in your knowledge and skills have resulted because of this course?

c. Are you more involved with your school or community because of this course? Why?

d. Did your grades in all of your courses go up or down this year? Do you think there's a reason for this?

e. How is your relation to the teacher or other students in this class different than in other classes?

f. Why do you feel more or less capable of investigating and solving problems as a result of this course?

STUDENT (cont'd)

V a. Did this course seem well organized to you? Is that necessary?

b. How did your class select the topics studied this year?

c. Did you work on an independent or group project?

d. What was its title and how was it selected?

e. What resources did you use for the project?

VI a. Were you tested or graded on the knowledge you gained in this course?

b. What do you feel is a valid way to judge what you have learned in this course?

c. List the things you based your progress and learning on?

VII a. Do you feel you will be more successful in college or at a job as a result of this course? Why or why not?

b. How has this course changed any of your plans for your future education or career?

VIII . What specific skills have you learned (interviewing, chemical tests, writing, etc.)?

IX What have you learned about yourself from this course?

Any additional comments? Thanks.

USEFUL MATERIALS

Essence I, Essence II were developed by the Environmental Studies for Urban Youth Project, formerly at Boulder, Colorado, sponsored by the American Geological Institute, funded by the National Science Foundation.

The kits are designed to encourage people to enjoy their learning experiences and to encourage growth, awareness, responsibility, and creativity. The assignment cards are purposely ambiquous to encourage creative thinking and problem solving, and to invite students to assume greater responsibility in their decision making. Because of this the cards can be used at any level, in any subject, in any way.

Published by ADDISON-WESLEY PUBLISHING CO., Menlo Park, California

Yellow Pages of Learning Resources edited by Richard Saul Wurman.
This is a guide to any city or town. It consists of alphabetically arranged categories - people, places, processes - which exist in a city and can be used as learning resources. The entries in the book are general, so that it can be used with flexibility and imagination. Some schools have made their own local "Yellow Pages" after having used this one.

Published by the MIT PRESS, Cambridge, Massachusetts.

Unified Science and Mathematics for Elementary Schools is an interdisciplinary program, developed under grants from the National Science Foundation. It is designed to challenge elementary students to solve real problems from their school and community environment.

Published by Education Development Center, 55 Chapel Street, Newton, Massachusetts 02160

An Environmental Education Guide for Teachers by Peter A. Gail.
This and other guides in the series are designed to help teachers and students use the local environment as a learning resource, and solve environmental problems in the community.

Published by Institute for Environmental Education, 1958 E. 90 St., Cleveland, Ohio 44106

In the Bank ... or up the Chimney? prepared for the Office of Policy Development and Research, Division of Energy, Building Technology, and Standards. U.S. Department of Housing and Urban Development, Washington, D.C. This is a dollars and cents guide to energysaving home improvements.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.